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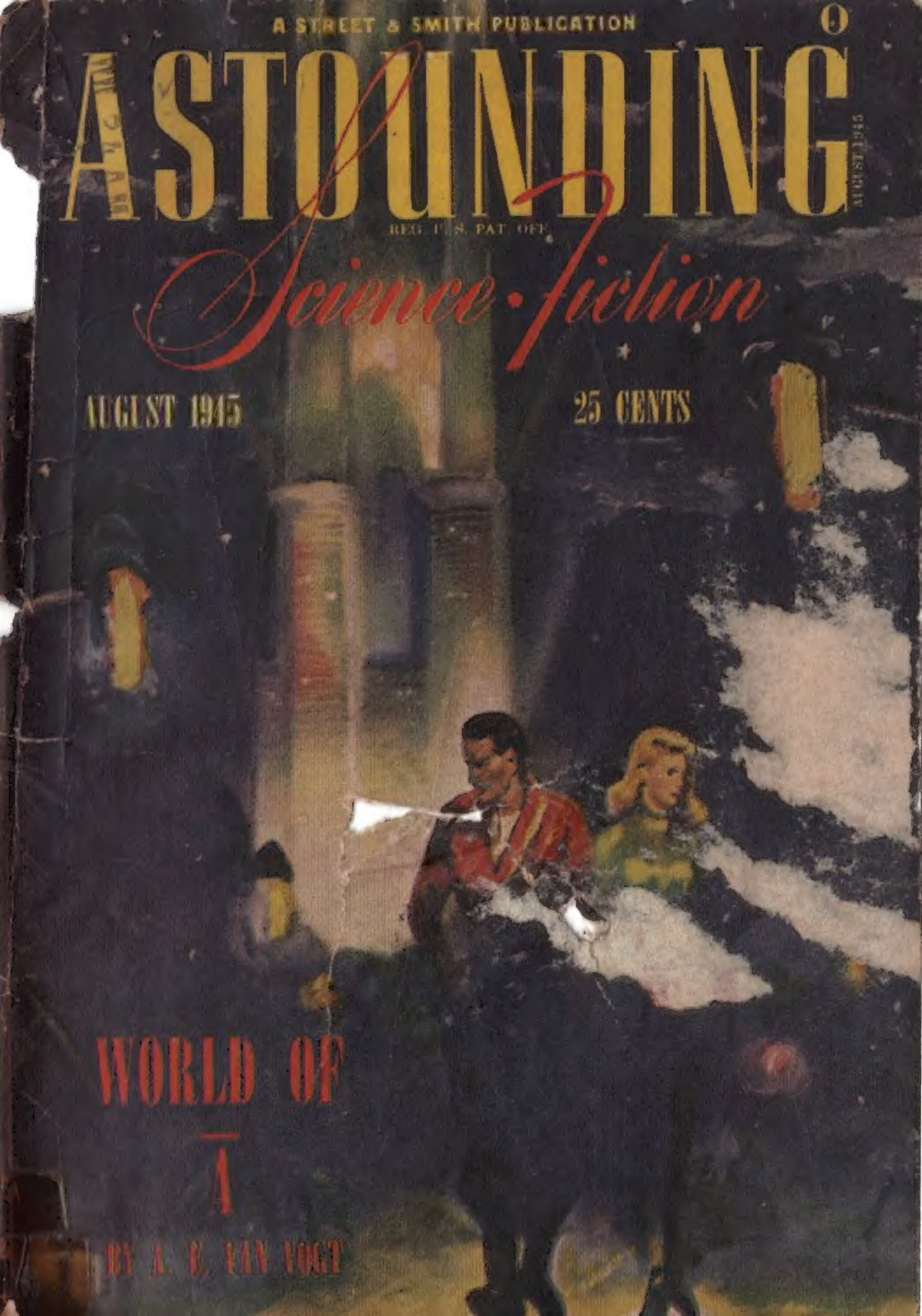
# ASTOUNDING

REG. U.S. PAT. OFF.

## Science-fiction

AUGUST 1945 25 CENTS



## WORLD OF A

BY A. E. VAN VOGT

# Invite *Him*?—Over My Dead Body!

Debbie was right. Chuck was a swell kid, but at a real nice party he would simply be excess baggage. Of late he had been pretty careless about a rather important thing, and the news got around fast. Lots of the girls considered a dance with him equivalent to a prison sentence. Too bad somebody didn't tip him off*!

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# It doesn't make sense, folks

**A man's a fool** to go around w[illegible]is pants pocket burning with extra fo[illegible] money when he ought to buy an extr[illegible]ond, because that loose lettuce is the s[illegible] inflation is made of. When that extr[illegible]gh goes hunting for civilian goods (th[illegible]s hard to find as Crosby in a tuxedo[illegible]ds to push up prices. Besides, it c[illegible]n't make sense when twelve million kids are fighting our battle for any of us to hike up the cost of living by buying anything we can live without.

Bob Hope

**ONE PERSON CAN START IT!**

**You give inflation a boost...**

—when you buy anything you can do without

—when you buy above ceiling or without giving up stamps (Black Market!)

—when you ask more money for your services or the goods you sell.

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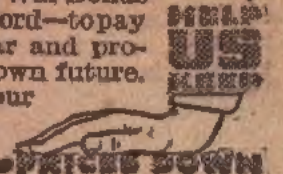


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# ASTOUNDING SCIENCE FICTION

Reg. U. S. Pat. Off.

## CONTENTS

AUGUST, 1945 VOL. XXXV, NO. 6

### SERIAL

WORLD OF Ā, *by A. E. van Vogt* . . . . . 7
*Three Parts—Part One*

### NOVELETTE

GIFT HORSE, *by Ross Rocklynne* . . . . . 116

### SHORT STORIES

INTO THY HANDS, *by Lester del Rey* . . . . 47
PIPELINE TO PLUTO, *by Murray Leinster* . . . 68
PARADOXICAL ESCAPE, *by Isaac Asimov* . . 79

### ARTICLES

ADVANCE IN THE RED, *by R. S. Richardson* . 99

### READERS' DEPARTMENTS

THE EDITOR[illegible]PAGE . . . . . 6
THE ANALYT[illegible]AL LABORATORY . . . . 153

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JOHN W. CAMPBELL, JR.

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# Science To Come

Science-fiction characteristically bases its material almost exclusively in the physical sciences—more or less necessarily so, since the physical sciences are the only sciences available to our particular culture. There are a number of indications, however, that if our culture doesn't start getting to work on some of the less known sciences rather promptly, "there ain't gonna be no" culture. Specifically, it's slightly fatal to know all about the outside world, and practically nothing about ourselves.

Currently, the "mental sciences" are simply not sciences—which is, of course, why they don't rate as so-called "physical" sciences.

Xrays, and various other types of radiation can cause tissues to disintegrate and slough off. My friend, you can do it by a pure effort of will—you can, by simply willing it, cause the tough, healthy leather of your fingers, for instance, to break down, and crumble away. Any force which can produce so definite a physical effect can, it certainly seems, be detected and measured by physical apparatus. You may doubt that actual destruction of tough skin tissue by simply willing it so is possible; to the best of my knowledge, no one has demonstrated it by conscious determination to show the effect. But every dermatologist is acquainted with neurodermatitis.

Ulcers are a sort of nervous disease—by an effort of will, even if not a conscious effort, the otherwise normal lining of the stomach can be destroyed. Physically, visibly eaten away.

Hysteric blindness, paralysis, or the like are phenomena of the same order, but don't ordinarily involve the physically visible phenomenon of destruction of healthy tissue.

Every doctor is, of course, well acquainted with the acknowledged fact that the duration of an illness, or even its final outcome, is strongly affected by the patient's mental attitude.

There have been many recorded, well authenticated cases of inexplicable, almost miraculous cures, of such conditions as inoperable cancer. The cancer simply, for unknown reasons, withers and vanishes.

Healthy skin can be destroyed by purely nervous controls. Ulcers appear and eat away the digestive tract under nervous controls gone haywire. Maybe if we just knew something about how the mental forces work, what nervous impulses are, we could explain those spontaneous cancer cures—and make them routine psychomedical therapeutic measures. If an effort of will can destroy healthy tissue, it seems as though it could starve cancer into submission.

They are beginning to make starts toward reducing mental science to a physical science—but in an inverse way. The first attacks on schizophrenic conditions by insu-

lin-shock therapy, followed by metrazol-shock and other chemical methods were physical-science attacks on a mental condition. They consisted, essentially, of systems that starved the brain of one or another of the essential fuel components—either sugar (insulin-shock) or oxygen (most of the other chemical-shock methods.)

More recently, both were dropped in favor of electric-shock methods. The chemical-shock attack was brutally violent, only barely compatible with continued life, and so dreaded by the patient that they constituted a mental hazard in themselves. The electric-shock system as originally introduced eliminated the mental hazard, since, at the instant of application of the current, the patient was made unconscious; the electric current, at 186,000 miles per second, shocked the brain centers into unconsciousness before any slow nerve impulses arrived. But, though much milder than the other methods, the psychiatric technician was apt to refer to the patient having "a good convulsion—he reacted well." The early electric-shock techniques did not kill patients, but legs and arms, broken by the violence of muscular convulsions, did suffer. But, too, the mental conditions improved immensely.

It was a shotgun technique, purely pragmatic. It's been refined a lot—now there is, in the best modern techniques, no convulsion whatever, and, far from being a shotgun, it is acquiring almost the accuracy of placement of a rifle. If the patient's mental condition was brought on by an emotional shock three weeks ago, the technician can, by proper adjustment of his equipment's controls, apply a sort of time-machine effect. The whole of the last three weeks is "aged" six months or so; the patient regains consciousness with the mental perspective that six months would normally give. The adjustment can pick out, fairly well, the length of time—memories that need to be aged. If the emotional shock occurred two weeks ago, or four weeks, different adjustments cover those periods.

The mind, whatever it may be, operates through the medium of, or is built up of—one or the other—a purely physico-electro-chemical mechanism known as the brain. Since chemical and electrical manipulation of that physical mechanism affects the mind, it seems that the converse should be true. Physical equipment, operating on electro-chemical laws, should be able to find out something useful about the brain-mind system.

I'm fairly well convinced that the race is fairly indestructible, and will survive any next war. But our present culture is finished.

Either it will learn something about how men live and think and react, so it can be discarded in favor of a cultural system that can prevent warfare, or the next gross failure on its part will produce a war in which the ancient cry of "Wolf! Wolf!" will not be a false alarm—they really will have the weapon that can't be stopped.

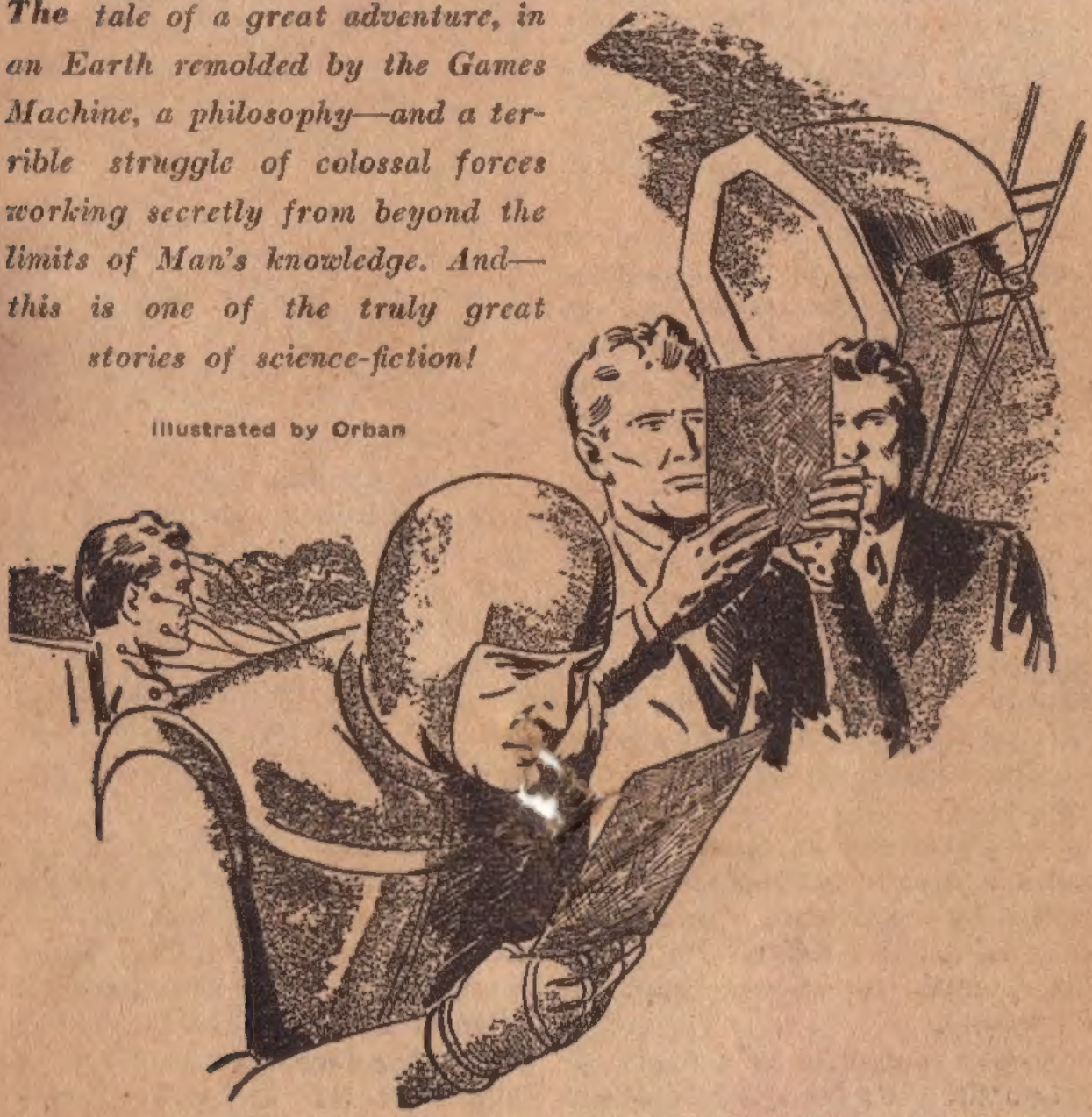
THE EDITOR.

# World of Ā

## by A. E. VAN VOGT

***The** tale of a great adventure, in an Earth remolded by the Games Machine, a philosophy—and a terrible struggle of colossal forces working secretly from beyond the limits of Man's knowledge. And—this is one of the truly great stories of science-fiction!*

Illustrated by Orban



I.

"Common sense, do what it will, cannot avoid being surprised occasionally. The object of science is to spare it this emotion and create mental habits which shall be in such close accord with the habits of the world as to secure that nothing shall be unexpected."

B. R.

*". . . The occupants of each floor of the hotel must, as usual during the games, form their own protective groups . . ."*

Gosseyn stared somberly out of the window of his hotel room. From its thirty-story vantage point, he could see the city of the Machine sprawled below him. It had no definable shape. His gaze reached towards the hazy periphery, and it was impossible to pick out even the beginning of a design.

There was a bank of river far to the right; the river itself seemed but a thread of misty silver. To the left, a blue-black sea expanded towards the horizon. Straight ahead, and on every side, were buildings, and more buildings, and more and more and more buildings.

They glittered in the setting sun. Color flashed from them to his eyes in a myriad of combinations. The city glowed and shone and blazed with a dazzling beauty, beyond all words. And the most unspeakably enthralling of all the individual parts of that enormous whole was the Machine.

The Machine was a scintillating silvery shaft, rearing into the sky nearly five miles away. Its gardens and its many subsidiary buildings were hidden in the mist of distance.

The sight of it was immensely bracing. In spite of himself, in spite of his dark mood, Gosseyn felt the wonder of that marvelous mechanism. Here he was, here, actually here at long last, to participate in the games of the Machine. The games which meant wealth and position for those who were partially successful, and *the* trip to Venus for the special group that won top honors.

For years and years he had wanted to come, but it had taken *her* death to make it possible. Everything, Gosseyn thought bleakly, had its price. In all his dreams of this day, he had never suspected that she would not be there beside him, competing herself for the great prizes.

In those days, when they had planned and studied together, it was power and position that had attracted all their hopes. The going to Venus part they had neither of them been able to imagine, nor had they considered it.

Now, for him alone, the power and wealth meant nothing. It was the remoteness, the unthinkableness, the mystery of Venus, with its promise of forgetfulness, that attracted his whole being. He felt himself aloof from the worldiness of Earth. In a completely unreligious sense, he longed for spiritual surcease.

A knock on the door ended the unconcentrated thought, and narrowed his gaze. Instinctively, Gosseyn's fingers closed on the element in his belt. He considered the situation for a moment, then manipulated the device to create a defensive screen six inches in front of him, from his face down to his knees.

The protection would be no good against a club or a solid bullet, but it would interfere with the energy

output of any small radiating weapon.

He opened the door. And looked at the boy who stood there. The boy said:

"I've been sent, sir, to tell you that all the rest of the roomers on this floor are in the sitting room."

Gosseyn felt blank. "So what?" he asked:

"They're discussing the protection of the people on this floor, sir, during the games."

"Oh!" said Gosseyn.

He was shocked, then astounded that he had forgotten. The earlier announcement coming over the hotel communicators about such protection had intrigued him, thrilled him.

Until the announcement it had seemed hard to believe that the world's greatest city would be entirely without police or court protection during the period of the games. In outlying cities, in all other towns, villages and communities, the continuity of law went on.

Here in the city of the Machine, for a solid month there would be no law except the negative defensive law of the groups.

And he had almost missed his first cue in that intricate pattern of protection by which groups took care of themselves.

"They asked me to tell you," the boy was saying, "that those who don't come are not protected in any way during the period of the games."

"I shall be right there," smiled Gosseyn. "Tell them I'm a newcomer and forgot. And thank you."

He handed the boy a quarter, and waved him off.

He closed the door, fastened the three plasto-windows and put a tracer on his videophone. Then, carefully locking the door behind him, he went out into, and along, the hall. As he entered the sitting room, he noticed that a man from his own town, a store proprietor named Nordegg, was standing near the door. Gosseyn nodded, and smiled a greeting.

The man glanced at him curiously, but did not return either the nod or the smile.

Briefly, that seemed odd.

The unusualness of it faded from Gosseyn's mind, as he saw that others of the large group present *were* looking at him.

Bright friendly eyes, curious friendly faces with just a hint of calculation in them—that was the impression Gosseyn had.

He suppressed a cynical smile. After all the calculation was so very understandable. Everybody was sizing up everybody else, striving to determine what chance their neighbors had of winning in the games.

He saw that an old man at a desk beside the door was beckoning him. Gosseyn walked over. The man said:

"I've got to have your name and such for our book here."

"Gosseyn," said Gosseyn. "Gilbert Gosseyn, Cress Village, California, age thirty-four, height six feet one inch, weight one hundred eighty-five, no special disinguishing marks."

The oldster smiled up at him, his eyes twinkling.

"That's what you think," he said. "If your mind matches your appearance, you'll go far in the games."

He finished: "I notice you didn't say you were married."

Gosseyn hesitated, thinking tensely of a dead woman. "No," he said finally, quietly, "not married."

"Well, you're a smart-looking man. May the games prove you worthy of Venus, Mr. Gosseyn."

"Thanks," said Gosseyn.

As he turned to walk away, Nordegg, the other man from Cress Village, brushed past him, and bent over the ledger on the desk. When Gosseyn looked back a minute later, Nordegg was talking animatedly to the old man, who seemed to be protesting.

The episode departed temporarily from Gosseyn's mind, as a small, jolly-looking man walked to an open part of the floor, and held up his hand.

"Ladies and gentlemen," he began, "I would say that we should now begin our discussions. Everybody interested in group protection has had ample time to come here. And therefore as soon as the challenging period is over, I will move that the doors be locked, and we start.

"For the benefit," he went on, "of those new to the games who do not know what I mean by challenging period, I will explain the procedure. As you know everybody here present will be required to repeat into the lie detector the information he or she gave to the doorkeeper. But before we begin with that, if you have any doubts about the legitimacy of anybody's presence, please state them now.

"You have the right to challenge anybody here present. Please voice any suspicions you have, even though you possess no specific evidence. Remember, however, that the group meets every week, and that challenges can be made at each meeting. But now, any challenges."

"Yes," said a voice behind Gosseyn. "I challenge the presence here of a man calling himself Gilbert Gosseyn."

"Eh!" said Gosseyn. He whirled and stared incredulously at Nordegg.

The man looked at him steadily, then his gaze went out to the small sea of faces beyond Gosseyn. He said:

"When Gosseyn first came in, he nodded to me as if he knew me, and so I went over to the book to find out his name, thinking it might recall him to me. To my amazement I heard him give his address as Cress Village, California, which is where I come from. Cress Village, ladies and gentlemen, is a rather famous little place, but it only has a population of three hundred. I own one of the three stores; and I know everybody, absolutely everybody in the village, and in the surrounding countryside.

"There is no person residing in or near Cress Village by the name of Gilbert Gosseyn."

For Gosseyn, the first tremendous shock had come and gone while

Nordegg was still speaking. The after-feeling that came was that he was being made ridiculous in some obscure way. The larger accusation seemed otherwise quite meaningless.

He said: "This all seems very silly, Mr. Nordegg—" He paused, struck by a mighty thought—"That *is* your name, is it not?"

"That's right," Nordegg nodded, "though I'm wondering how you found it out."

"Your store in Cress Village," Gosseyn persisted, "stands at the end of a row of nine houses, where four roads come together."

"There is no doubt," said Nordegg, "that you have been through Cress Village either personally or by means of a photograph."

The man's smugness abruptly irritated Gosseyn. Damn his miserable hide, what was he trying to pull off? With an effort, Gosseyn fought that leaping anger. He said:

"About a mile westward from your store is a rather curiously shaped house."

"House he calls it!" said Nordegg. "The world-famous California home of the Hardie family."

"Hardie," said Gosseyn, "was the maiden name of my late wife. She died about a month ago. Patricia Hardie. Does that strike any chord in your memory?"

He saw that Nordegg was grinning gleefully at the intent faces surrounding them.

"Well, ladies and gentlemen, you can judge for yourselves. He says that Patricia Hardie was his wife. That's a marriage I think we would all have heard about if it had ever taken place. And as for her being the late Patricia Hardie, or Patricia Gosseyn, well"—he smiled ferociously—"all I can say is, I saw her yesterday morning, and she was very, very much alive, and looking extremely proud and beautiful on her favorite horse, a white Arabian."

It wasn't ridiculous any more. None of this fitted; none! Patricia didn't own a horse, white or colored. They had been poor, working their small fruit farm in the daytime, studying at night. Nor was Cress Village world-famous as the country home of the Hardies. The Hardies were nobodies—who the devil were they supposed to be?

The question flashed by. And was gone, succeeded by a greater thought, a purpose. A purpose that had nothing to do with the people in the room, though it grew out of Nordegg's words.

It was so important, so vital, that Gosseyn's brain retreated abruptly from the very idea of argument; with a simple clarity he saw only the means that would end the deadlock, and enable him to carry out the all-compelling purpose inside him. He spoke the necessary words:

"I can only suggest that the lie detector will readily verify my statements."

But the lie detector said: "No, you are not Gilbert Gosseyn; nor have you ever been a resident of Cress Village, California. You are—"

It stopped. The dozens of tiny

electronic tubes in it flickered uncertainly.

"Yes, yes," urged the pudgy man. "Who is he?"

There was a long pause; then:

"No knowledge about that is available in his conscious mind," said the detector. "There is an aura of unique strength about him. But he himself seems to be unaware of his true identity. Under the circumstances, no identification is possible."

"Under the circumstances," said the pudgy man with finality, "I can only suggest an early visit to a psychiatrist, Mr. Gosseyn. Certainly, you cannot remain here."

A minute later, Gosseyn was out in the corridor. The thought, the purpose seemed now made of caked ice; it lay on his brain, a cold weight. He *had* to get that freezing, deadly thing out of him.

He reached his room, and put through the call on the videophone. It took about two minutes to make the connection with Cress Village, California.

A strange woman's face came on to the plate. It was a rather severe face, but distinctive and young, even good-looking.

"I'm Miss Treechers, Miss Patrica Hardie's California secretary. What is it you wish to speak to Miss Hardie about?"

For a moment the existence of such a person as Miss Treechers was staggering. Then:

"It's private," said Gosseyn, recovering. "And it's important that I speak to her personally. Please connect me at once."

He must have sounded, or looked, or acted authoritative; there must have been something about him. The young woman said hesitantly:

"I'm not supposed to do this, but you can reach Miss Hardie at the palace of the Machine."

Gosseyn said explosively: "She's *here,* in the great city!"

He was not aware of hanging up. But suddenly the woman's face was gone; the video was dark. He was alone with his realizations:

Patricia was alive!

He had known of course. His brain, educated in accepting things *as they were,* had already adjusted to the fact that a lie detector didn't lie.

Sitting there, he felt strangely satiated with information. No impulse came to call the palace, and talk to her, see her. Tomorrow of course he would have to go there; but that seemed far away in space-time. He grew aware that someone was knocking loudly at his door.

He opened it, and stared at four men, the foremost of whom, a bespectacled young man, said:

"I am the assistant to the manager, in charge of this section of the hotel. We'll check your baggage downstairs, but during the policeless month, we dare not take any chances with individuals, so—"

It took about twenty minutes for Gosseyn to be ejected from the multistoried hotel. Night was falling, as he walked slowly along an almost deserted street.

## II.

"The negative judgment is the peak of mentality."

A. N. W.

It was too early as yet for grave danger. The night, though already arrived, was but beginning. The prowlers and the gangs, the murderers and the thieves, and the scores of unclean human creatures who would soon emerge from their myriad shelters, were still hidden in the oblivion of a vast city.

Gosseyn came to a sign that flashed on and off, repeating tantalizingly:

**Rooms for the Unprotected**
**$20 a Night**

They didn't want much, he reflected grimly. At that rate, the three hundred dollars he possessed wouldn't carry him more than ten days, counting in food and costs connected with the games.

Besides, there were ugly stories connected with such places.

He walked on. It was a bright, almost a dazzling night. As the planetary darkness deepened, more and more atomic-powered lights flashed on in their automatic fashion. The world of the city of the Machine glowed and sparkled with an incandescent glory. For miles and miles, he could see the two lines of street lamps like shining sentinels striding in geometric progression towards a distant blaze point of illusory meeting.

Spiritually empty brightness! The fulness of the light only served to emphasize the absence of man from his special creation, the megalopolitan city.

It was suddenly immensely depressing.

He stopped short there in the deserted street. "I must free myself," he said aloud, intently, "from the delusions of my mind, from the false memory and the conviction I have of my identity."

He was apparently suffering from semi-amnesia, and he must try to comprehend that in the largest sense of meaning. Only that way would freedom come.

He attempted to visualize the freeing as an *event* in the null-A interpretation. But the reality would not rise above the verbal level.

"One fact I have," he told himself. "I am not Gilbert Gosseyn, though I shall continue to use the name until I find what my real name is."

The conscious use of negation, that important mind-training system, made him feel better. And suggested a new though un-negative approach to his problem:

Perhaps if he tried to picture the event that was himself, as he was, semi-amnesia and all, he might attain to the objective level.

It worked.

The results were almost stupendous. Like water draining from an overturned basin, the doubts and fears spilled out of him. The weight of false grief, false because it had so obviously been imposed upon his mind for somebody else's purpose, lifted.

He was free.

It was strangely intoxicating. He looked around with new, brighter vision. Long lines of glowing shop windows faced him on either side of the street. Just like that, they enticed him. Suddenly, what they offered was important and attractive. The brilliant displays of goods, the luxuries of life here shown in their most explicit form, mattered again.

They were incentives to life. Once more, he had something to work for, and to desire with all his possession-starved heart.

There remained, of course, the semi-amnesic disaster that had befallen his mind, and the absolute necessity of doing something about it.

Not now! With an effort of will, he blurred that stirring of purpose. Strongly came the realization that tonight the things outside his skin counted, not retrospection and introspection about what had happened.

Above all else, he must cling to life until morning.

Instinctively, he started forward again. As he walked, his gaze darted from side to side, seeking to penetrate the shadows of doorways. Street corners he approached with the gingerliness of extreme alertness. His defensive screen was full on; and he kept his hand on his gun.

In spite of his caution, he did not see the girl who came racing from a side street until an instant before she banged into him with a violence that unbalanced them both.

The swiftness of the happening did not prevent precautions.

With his left arm, Gosseyn snatched at the young woman. He caught her body just below the shoulders, imprisoning both of her arms in a vicelike grip. With his right hand, he drew his gun.

All in an instant. There followed a longer moment while he fought to recover from the imbalance her speed and weight had imposed on them both.

He succeeded. He straightened. He half-carried, half-dragged her into the shadowed archway of a door.

As he reached its shelter, the girl began to wriggle and to moan softly. With a jerk Gosseyn brought his gun hand up, and put it, gun and all, over her mouth.

"Sssshh!" he whispered. "I'm not going to hurt you."

She ceased wriggling; she stopped her whimpering. He allowed her to free her mouth. She said breathlessly:

"They were right behind me. Two men. They must have seen you, and run off."

Gosseyn considered that. Like all the happenings in space-time, this one was packed with unseen and unseeable factors. A young woman, different from all the other young women in the universe, had come running in terror from a side street.

Her terror was either real, or it was assumed.

Gosseyn's mind, semantically trained, skipped the harmless possibility, fastened upon the probability

that her appearance was a trick. He pictured a small group waiting around the corner, anxious to share in the spoils of a policeless city, yet not willing to take the risk of a direct assault.

He felt coldly and unsympathetically suspicious. Because if she was harmless, what was she doing out alone on such a night?

He muttered the question, savagely.

"I'm unprotected," came the husky answer. "I lost my job last week because I wouldn't go out with the boss. And I had no savings. My landlady put me out this morning when I couldn't pay my rent."

Gosseyn said nothing. Her explanation was so feeble that he couldn't have spoken without making an effort out of it.

After a moment, he wasn't so sure. His own story wouldn't sound any too plausible, if he should ever make the mistake of putting it into words.

Before committing himself to the possibility that she was telling the truth, he tried one question:

"There's absolutely no place you can go?"

"None," she said; and that was that. She was his charge for the duration of the games.

He led her unresisting out onto the sidewalk, and, carefully avoiding the corner, onto the road.

"We'll walk in the center of the road," he said. "That way we can watch the corners better."

The road had its own dangers, but he decided not to mention them.

"Now, look," Gosseyn went on earnestly, "don't be afraid of me. I'm in a mess, too, but I'm honest. So far as I am concerned, we're in the same predicament; and our only purpose right now is to find a place where we can spend the night."

She made a sound; almost it seemed like a muffled laugh, but when Gosseyn whirled on her, her face was averted from the nearest street light, and he couldn't be sure.

She turned a moment later to face him; and he had his first real look at her. She was young, with thin but heavily tanned cheeks. Her eyes were dark pools, her lips parted. She wore make-up, but it wasn't a good job, and added nothing to her beauty.

She didn't look as if she had laughed at anything or anybody for a long, long time.

Gosseyn's sharp suspicion faded. But he was acutely aware that he was back where he had started, protector of a girl whose individuality had not yet shown itself in any tangible form.

The vacant lot, when they came opposite it, made Gosseyn pause thoughtfully. It was dark, and there was brush scattered over it. It was an ideal hiding place for marauders of the night. But, looked at from another angle, it was also a possible shelter for an honest man and his protégé. Provided they could approach it without being seen.

He noticed after a brief intent survey that there was a back alley leading to the rear of the vacant lot, and a space between two stores through which they could get to the alley.

It took ten minutes to locate a satisfactory patch of grass under a heavily hanging shrub.

"We'll sleep here," Gosseyn whispered.

She sank down. And it was the wordlessness of her acquiescence that brought the sudden realization that she had come with him awfully easily.

He lay thoughtful, eyes narrowed, pondering the possible dangers.

There was no moon; and the darkness under the overhanging shrub was intense. After a while, a long while, Gosseyn could see the shadowlike figure of her in a splotch of dim light reflections from a distant street lamp.

She was above five feet from him, and all those first minutes that he watched her, she didn't move perceptibly. Studying the shadow shape of her, Gosseyn grew increasingly conscious of the unknown factor she represented. She was, he thought with a sudden sardonicism, at least as unknown as he himself.

His speculation ended, as the young woman said in a *sotto voce:*

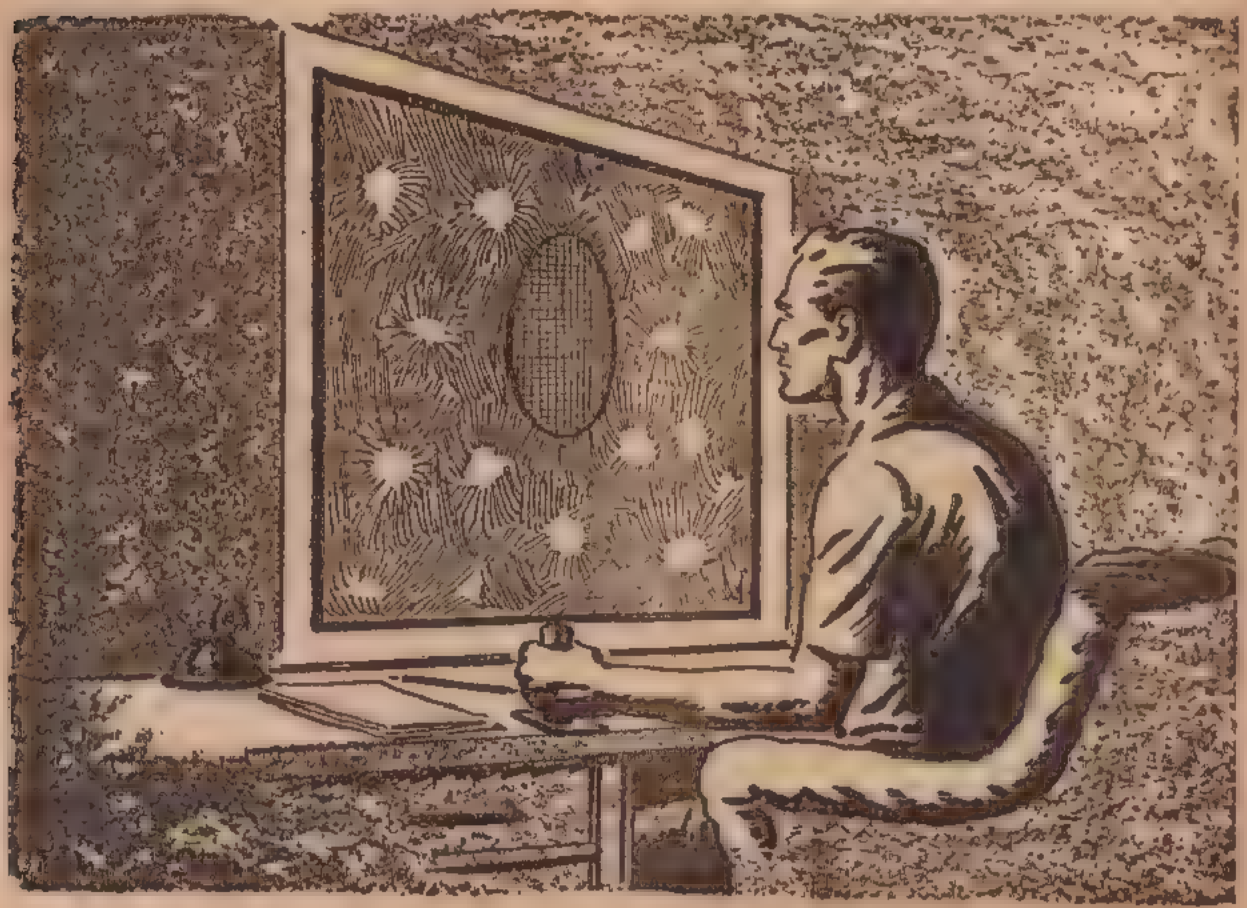
"My name is Teresa Clark. What's yours?"

What indeed? Gosseyn wondered. Before he could speak, the girl added:

"Are you here for the games?"

"That's right," said Gosseyn.

He hesitated, smiling bleakly. It was he who ought to be asking the questions. He had to find out more about her. And find it out now.



"And you?" he said. "Are you here for the games, too?"

It took a moment to realize that he had propounded a leading question. Her answer was bitter-voiced:

"Don't be funny. I don't even know what this A with the bar over it stands for."

Gosseyn was silent. There was a humility here that embarrassed him. The girl's personality was suddenly clearer: a twisted ego that, beyond all doubt, would shortly show itself to be perfectly satisfied with itself.

A car raced past on the nearby street, ending the need for comment. It was followed rapidly by four more. The night was briefly alive with the thrum of tires on pavement. The sound faded. But vague echoes remained, distant throbbing noises which must have been there all the time, but which only now that their attention had been aroused, became apparent.

The young woman's voice intruded softly; she *did* have a nice voice, though there was a plaintive note in it of self-pity that was not pleasant:

"What is all this games stuff anyway? In a kind of a way, it's easy enough to see what happens to winners who stay on Earth. They get all the juicy jobs; they become judges, governors and such. But what about the thousands who every year win the right to go to Venus? What do they do when they get there?"

"If I knew that," said Gosseyn, "I might be more anxious to make the trip. As it is, I think I'll be satisfied with the presidency."

The girl laughed softly, a curious resonant gurgling laugh. "You'll have to go some," she said, "to beat the Hardie gang."

Gosseyn sat up jerkily. "To beat *whom?*" he said.

"Why, Michael Hardie, president of Earth."

Slowly, Gosseyn sank back to the ground. He lay there, his brain whirling. So that was what Nordegg and others at the hotel had meant. His story must have sounded like the ravings of a lunatic. President Hardie, Patricia Hardie, a palatial summer home at Cress Village—and every bit of information in his brain about that absolutely untrue.

Who had planted it there? The Hardies!

"Could you," came Teresa Clark's voice, slowly, "teach me how to win some minor job through the games?"

"What's that!" In the darkness, Gosseyn stared at her.

His first astonishment yielded to a kindlier impulse.

"I don't see how it could be done," he said. "The games require knowledge and skill integrated over a long period. During the last fifteen days, they require such flexibility of understanding that only the keenest and most highly developed brains in the world can hope to compete."

"I'm not interested in the last fifteen days. If you reach the seventh day, you get a job, is that right?"

It was right but—

"The lowest job competed for in the games," Gosseyn explained gently, "pays ten thousand a year. The competition, I understand, is slightly terrific."

"I'm pretty quick," said Teresa Clark. "And I'm desperate. That should help."

Gosseyn doubted it, but he felt sorry for her.

"We can talk it over in the morning," he said.

He was suddenly weary. He lay back; his last thought before sleep came was a wonder as to what the lie detector had meant when it said: "There is an aura of unique strength about him."

That at least was pleasant to think about.

He thought about it.

When he wakened, the sun was shining. Of Teresa Clark, there was no sign.

Gosseyn verified her absence by a quick search through the brush. Then he walked to the sidewalk a hundred feet away, and glanced along the street, first north, then south.

The sidewalks and the road were alive with human and mechanical traffic. Men and women, gaily dressed, hurried along past where Gosseyn stood. The sound of many voices and many machines made a buzz and a roar and a hum.

It was suddenly exciting. To Gosseyn, there came exhilaration, and, stronger now, the realization that he was free.

Even the girl's departure proved that she was not the second step in some fantastic plan, that had begun with the attack on his memory. It was relieving to have her off his hands.

A familiar face detached itself from the flickering human countenances that had been flashing past him. The body supporting the face and head was encumbered by two paper bags.

"I've brought some breakfast," said Teresa Clark, cheerfully, as she came up. "I thought you'd prefer to picnic out among the ants, rather than try to get into a packed restaurant."

They ate in an almost complete mutual silence. Gosseyn noted that the food she had brought had been daintily put up in boxes and plasto containers for outside service. There was reinforced orange juice, a cereal with cream in a separate plasto, hot kidneys on toast, and coffee, also with its separate cream.

Two dollars, he estimated, minimum. Which was pure luxury for a couple who still had thirty days of surviving to do on a small amount of money.

And wait a minute! A girl who possessed two dollars would have paid part of it to her landlady for another night's lodging. Furthermore, she must have had a good job even to think in terms of such a breakfast.

That brought a new thought. Gosseyn frowned over it a moment, then said:

"This boss of yours, who made the passes at you—what's his name?"

"Huh!" said Teresa Clark. She

had finished her kidneys, and was searching in her purse. Now, she looked up, startled.

Her face cleared. "Oh, him!" she said.

There was a distinct pause.

"Yes," Gosseyn urged. "What's his name?"

She was completely recovered. "I'd prefer to forget about him," said Teresa Clark. "It's not pleasant."

She changed the subject. "Will I have to know much for the first day?"

Gosseyn hesitated, half inclined to pursue further the subject of her boss. He decided not to. He said:

"No. Fortunately, the first day has never been more than a perfunctory affair. It consists primarily of registrations, and in being assigned to the cubbyhole where you take your early tests.

"I've studied the published records of the games of the last twenty years, which is the farthest back the Machine'll ever release; and I've noticed that there is never any change in the first day. You are required to define what the A, the N and the E with the bar over them stand for.

"Whether you realize it or not, you cannot have lived on earth without picking up some of the essence of $\bar{A}$. It's been a growing part of our common mental environment for nearly three hundred years."

He finished: "People, of course, have a tendency to forget definitions, but if you're really in earnest about this—"

"You bet I am," said the girl.

She drew a cigarette case out of her purse. "Have a cigarette!"

The cigarette case glittered in the sun. Diamonds, emeralds and rubies sparkled from its intricately wrought gold surface. A cigarette, already lighted in some automatic fashion inside the case, protruded from its projector.

The gems could have been plastic, the gold imitation. But there was a hand-made look about the thing, and a genuineness that was staggering. Gosseyn, a little wildly, estimated its value at twenty-five thousand dollars.

He found his voice. "No, thanks," he said; "I don't smoke."

"It's a special brand," said the young woman insistently. "Made in California, deliciously mild."

Gosseyn shook his head. And this time she accepted the refusal. She removed the cigarette from the case, put it to her lips and inhaled with a deep satisfaction. Then plunged the case back into her purse.

She seemed unconscious of the sensation it had caused. She said:

"Let's get busy with my studies. Then we can separate, and meet here again tonight. O.K.?"

She was a very dominating young woman; and Gosseyn wasn't sure that he could even learn to like her. His suspicion, that she had come into his life with a purpose, was stronger.

She was possibly a connecting link betwen himself and whoever had monkeyed with his brain. He

couldn't let her get away.

"O.K.," he said. "But there isn't any time to waste—"

## III.

"To be is to be related."

C. J. K.

Gosseyn helped the girl off the surface car. They walked rapidly around a screening nest of trees, through massive gates, and came into sight of the Machine.

The girl walked unconcernedly on. But Gosseyn stopped.

The Machine was at the far end of a broad avenue, about half a mile away from the tree-sheltered gates. It reared up and up in a silver shining metal splendor. It was a cone poking into the lower heavens, and crowned by a dazzling star of atomic light, brighter than the noonday sun above.

The sight, the near and marvelous magnificence shocked him. He hadn't thought of it before, but now—

The Machine would never accept his false identity.

He felt a constriction, a fear like fire. He stood there then, shaken and depressed. He grew aware that Teresa Clark had come back, and was looking up at him.

"This is your first time to see it close!" she said sympathetically "It does get you, doesn't it?"

There was a hint of superiority in her manner that brought a wan smile to Gosseyn's lips. These city slickers! he thought sardonically. He felt better, and, taking her arm with a little laugh, started forward again.

His confidence grew. Surely, the Machine wouldn't judge him on such a high abstraction as nominal identity, when even the lie detector in the hotel had recognized that he was not misrepresenting himself on purpose.

The crowds became more unwieldy as they approached the base of the Machine. And the bigness of the Machine itself was more apparent every minute. Its roundness and its size gave it a sleek, streamlined appearance that was not canceled by the tiers of individual game rooms that ornamented and broke up its gigantic base.

Right around the base, the rooms extended. The whole first floor was game rooms and corridors leading to them. Broad outside staircases led to the second, third and fourth floors and down into three basements, a total of seven floors entirely devoted to game rooms for individual competitors.

"Now that I'm here," said Teresa Clark, "I'm no longer so sure of myself. These people look darned intelligent."

Gosseyn could see what she meant. The competitors were almost all true leader-type men and women. In the old days they would have been either introverts or extroverts, the introverts mostly wage slaves; the extroverts, business executives, club presidents, army generals or demagogues.

Now, their brains trained never to level off into infantile positivities,

they had come to try for the great prizes of the games.

Most of them would be winners.

Aloof and impregnable, the Machine towered above the humans it was about to sort according to their talents. No one now living knew exactly in what part of its structure its electron-magnetic brain was located.

Like many men before him, Gosseyn speculated about that. "Where would I have put it?" he wondered, "if I had been one of the scientist-architects?"

It didn't matter of course. The Machine was already older than any known living human being. Self-renewing, conscious of its life and of its purpose, it remained greater than any individual, immune to bribery and corruption, and theoretically capable of preventing its own destruction.

"Juggernaut!" emotional men had screamed when it was being built.

"No," said the builders, "not a destroyer, but an immobile mechanical brain with creative functions, and a capacity to add to itself in certain sane directions."

In three hundred years, people had come to accept its decisions as to who should rule them.

Gosseyn was briefly aware of a conversation between a man and a woman, who were walking along nearby:

"Frankly," the woman was saying, "the policeless aspect of the games is rather terrifying. I think it could be dispensed with."

The man thought it was necessary, and said so:

"The very terrifying aspects of it illustrate vividly what a paradise Venus must be, where no police are necessary, though there are detectives for special purposes.

"Just think," he went on enthusiastically, "when we become worthy of Venus, we go to a planet where everybody is sane. There are no thieves, no murderers, no schemers. The policeless period here provides us with a yearly measuring rod as to how swiftly Earth people are progressing. At one time, it was a nightmare; but I've noticed a change even in my lifetime.

"Oh, yes, the policeless period is necessary."

Gosseyn realized it was time he said something to the girl, something encouraging. He said:

"At least you won't have to worry about today. And if you're as quick in future at picking up facts, well—who knows!"

*He* knew. There was no room for amateurs in the games of the Machine.

A good possibility existed, of course, that she was not an amateur. But he couldn't be sure of that yet.

"I guess here's where we separate," said Teresa Clark. "The C's are down on the second basement, the G's just above them. Meet me tonight at the vacant lot. O.K.?"

"O.K.!"

Gosseyn waited until she was out of sight down a stairway that led to the second basement. Then he followed. He caught a brief

glimpse of her as he reached the bottom of the steps. She was pushing her way towards an exit at the end of a far corridor.

He was halfway along the corridor, when she vanished up a staircase that led outside. By the time Gosseyn pushed his way up the stairs, she was nowhere to be seen.

Thoughtfully, he walked towards his own staircase. He felt sharply conscious that the problem of Teresa Clark was not all going to be as simple as this discovery that she was not even considering taking the tests of the Machine.

He entered a vacant examination booth in the G section. The door had barely clicked shut behind him when a voice from a speaker said matter-of-factly: "Your name?"

Gosseyn forgot Teresa Clark. He stood funking an answer, conscious that here was an immediate and tremendous crisis.

The booth contained a comfortable swivel chair, a desk with drawers and a transparent paneling above the desk, behind which electron tubes gleamed in a variety of cherry red and flame yellow patterns. In the center of the panel, also made of transparent plastic, was an ordinary streamlined speaker.

It was from this speaker that the voice of the Machine had come. It repeated now:

"Your name? And please grasp the nodes."

"Gilbert Gosseyn," said Gosseyn quietly.

There was silence. Some of the cherry red tubes flickered unsteadily. Then:

"For the time being," said the Machine, "I shall accept that name."

Gosseyn sank slowly into the chair, and crouched there. The skin around his hot and cold nerve ends warmed with excitement. He had the sudden conviction that he was on the verge of discovery. He said:

"You know my true name?"

There was another pause. Gosseyn had time to think of a Machine that was at this very second conducting tens of *thousands* of separate conversations with the individuals in every cubbyhole in its base. Then:

"There is no record in your conscious mind of another name," said the Machine tonelessly. "I suggest a visit to a psychiatrist. Ask him to take a photograph of your cortex. And now, are you ready for your test?"

"B-but—" Gosseyn protested.

"No further questions at this moment, please," said the Machine coldly. "You will find writing materials in the top right-hand drawer of your desk. The questions are printed on each sheet. You have thirty minutes to answer them. You will not be able to leave your room till the thirty minutes have elapsed, regardless of the speed with which you complete your paper. Good luck."

The questions were as he had expected:

What is non-Aristotelianism?

What is non-Newtonionism?

What is non-Euclidianism?

The questions were not really easy. The trick was not to attempt a detailed reply, but to show consciousness of the multiordinal meaning of words, and of the fact that every answer could only be an abstraction.

Gosseyn wrote his answers in the spaces provided, then sat back, tingling with anticipation.

The Machine had said: *"No further questions at this moment."*

At what moment would it consider further questions?

Gosseyn waited.

At the end of twenty-five minutes, the voice came again:

"Please do not be too surprised at the simplicity of today's tests. It is important to remember that the purpose of the games is not, as might seem the case, judging from the final results, to beguile the great majority of the contestants into losing. The purpose is nothing less than the education of the human race; and that purpose can only be realized when everybody survives the full thirty days of the games.

"And now, those who failed today's test have already been informed. They will not be accepted as contestants during the rest of this season's games. To them I say better luck next time. To the rest, more than ninety-nine percent I am happy to say, good luck for tomorrow."

It was fast work. He had simply slipped his paper into the slot provided; some variation of a television tube had scanned it, compared it to the correct answers, in highly flexible fashion, and recorded a pass.

Similarly, with the answers of the twenty-five thousand other contestants, who would in a few minutes be replaced by twenty-five thousand more.

"You wish to ask more questions, Gilbert Gosseyn?" said the Machine.

Gosseyn jumped. He collected his thoughts automatically, made the semantic pause necessary to cortical-thalamic integration, and said:

"Yes. I have had some false ideas planted in my mind. Were they put there with a purpose?"

"They were."

"Who put them there?"

"No record of that exists in your conscious brain."

"Oh!" Gosseyn was silent, grim, disappointed. He added finally: "You can't help me much, can you?"

There was a curious sadness in the reply: "I am only an immobile brain, but dimly aware of what is transpiring in remote parts of Earth. What plans are brewing I can only guess. But you are involved in them as deeply and darkly as death itself."

It's tone grew decisive: "Gilbert Gosseyn, I give you fifteen days to solve your identity. At the end of that time, you must either know who you are, or be barred from further participation in the games.

"The time limit has not been lightly fixed. Go now, to your destiny."

There was a click from the door,

as it unlocked automatically. Gosseyn went out into the corridor, hesitated for a moment; and then worked his way northward through the hurrying crowds.

Gosseyn paused finally, and straightened, letting his shoulder muscles relax, and the great muscles in his back.

He stood like that, eyes half closed, his mind in a state of slow concentration that made physical relaxation one of the important systems for the maintenance of sanity. He thought:

"My situation is really ever so much better. I have two purposes, first to go to a psychiatrist, second to find out who I am. And the Machine, with its almost omnipotent perception, implies that I can find out in fifteen days if I try hard."

He began to *feel* better. He opened his eyes, and looked around him. He was standing on a paved boulevard that led north.

To the north, starting at about a quarter of a mile from the Machine, other buildings began. They were geometrically arranged in clusters around the boulevard, at the far end of which amid embanked flowers and trees stood the palace of the Machine.

The palace was not tall; its stately contours nestled in among the vivid green and brilliance of its verdant environment—but that wasn't what held Gosseyn.

His mind was reaching, visualizing, comprehending.

President Hardie and his daughter, Patricia, lived there.

Patricia Hardie. Gosseyn was conscious of a distinct tug in his mind. He thought intently:

If he was darkly and deeply involved, then so must they be. What had made them plant into his mind the conviction that he was married to a *dead* Patricia?

It seemed futile. Any hotel group lie detector would have found him out, even if a Nordegg hadn't been around to accuse him.

He ought to go up, and seek an interview. With Hardie? With Patricia?

Somehow, he couldn't quite picture himself actually making the attempt to get into the palace. Not now, before he had been examined by a null-A psychologist.

Gosseyn turned, and strode around the base of the Machine, back towards the city proper. He ate lunch in a small restaurant near the waterfront, then began to thumb through the yellow pages of a telephone directory. He knew the name he was looking for, and he found it almost right away:

Enright, David Lester, Dr., psychologist, 709 Medical Arts Building

Enright had written several books, which were prescribed reading for anyone who hoped to get beyond the tenth day in the games.

It was a pleasure to remember the crystallike clarity of the man's writing, the careful semantic consideration given to every multiordinal word used, the breadth of intellect and understanding of the

human body-and-mind-as-a-whole.

Gosseyn closed the directory, and went out to the street. He felt at ease; his nerves were calm. Hope was surging in him.

The very fact that he remembered Enright and his books in such detail showed how lightly the intruding semi-amnesia rested on his memory.

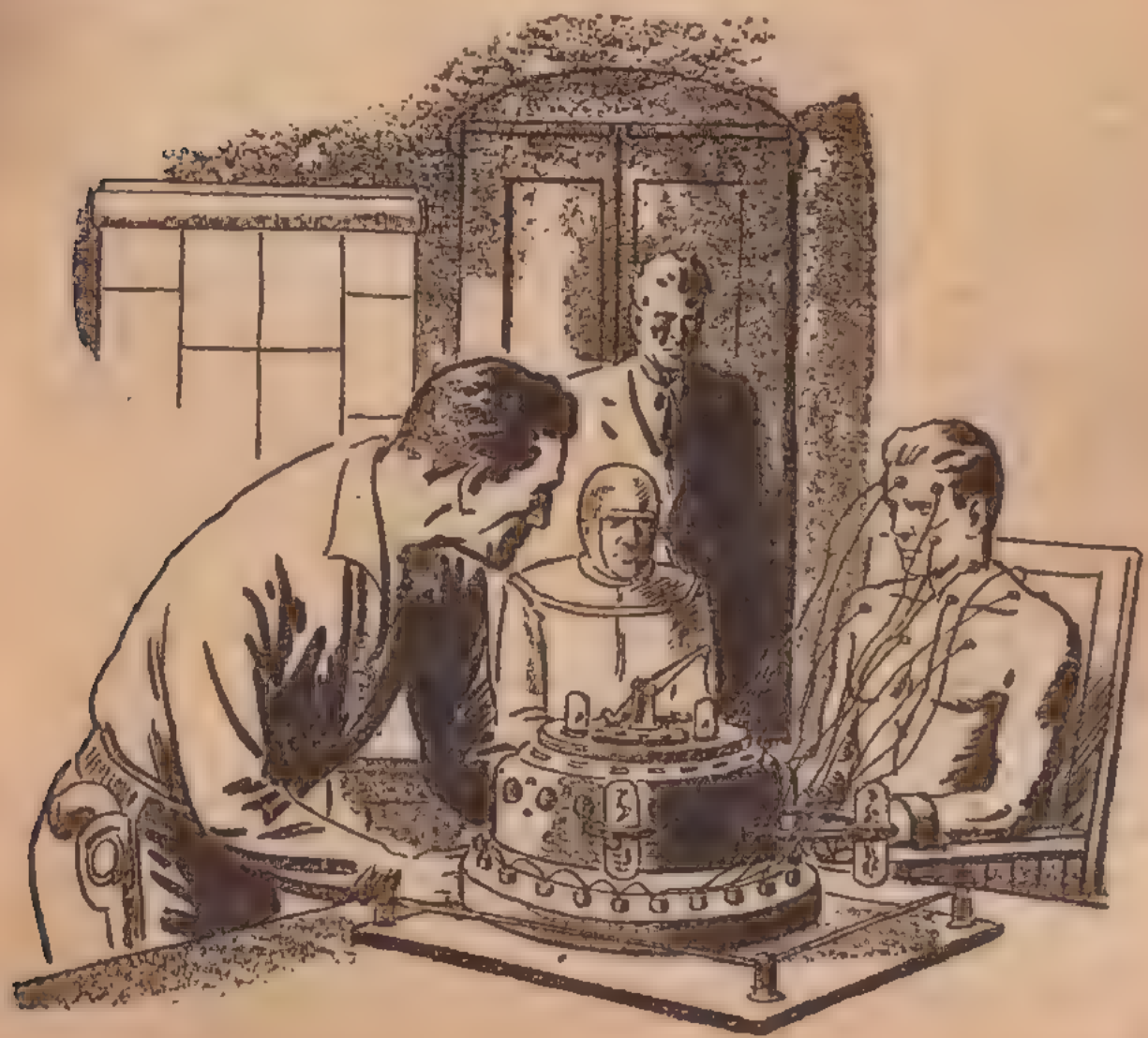
It shouldn't take long once the famous man began to work on him. The reception clerk in the doctor's office said:

"Dr. Enright can be seen by appointment only . . . I can give you an hour three days from now, that is Thursday at 2 p.m. You must however make a twenty-five dollar deposit."

Gosseyn paid the money, accepted his receipt and went out. He was disappointed, but not too much so. Good doctors were bound to be busy men in a world that was still far from having attained n u l l - A perfection.

On the street again, he watched the longest, most powerful car he had ever seen slide past him, and draw up at the curb a hundred feet away.

The car gleamed and shone in the



afternoon sun. A liveried attendant leaped smartly from beside the driver, and opened a door.

Teresa Clark stepped out. She wore an afternoon dress of some dark shining material. The ensemble did not make her appear less slim, but the dark coloring of the dress made her face seem a little fuller and, by contrast, not so heavily tanned.

Teresa Clark! The name was a meaningless mockery in the face of this magnificence.

"Who," Gosseyn hissed fiercely to a man who had stopped beside him, "is that?"

The stranger glanced at him in surprise; and then he spoke the name Gosseyn had already half guessed:

"Why, that's Patricia Hardie, daughter of President Hardie . . . quite a neurotic, I understand. Look at that car, for instance, like an oversized jewel, a sure sign of—"

Gosseyn was turning away, turning his face from the car and its recent occupant. No sense in being recognized until he had thought this through.

It seemed ridiculous that she would actually come again that very night to a dark lot to be alone with a strange man.

But she was there.

Gosseyn stood in the shadows, staring thoughtfully at the shadow figure of the girl. He had come to the rendezvous very skillfully. Her back was to him, and she seemed to be unaware of his presence.

It was possible, in spite of his careful reconnoitering of the entire block, that he was already in a trap. But it was a risk he felt no hesitation in taking.

Here, in this girl, was the available concrete clue he had to the mystery of himself.

He watched her curiously, as well as he could in the developing darkness.

She was sitting, at the beginning, with her left leg tucked under right one. In the course of ten minutes, she changed her position five times. Twice during the shifts, she half stood up. In between, she spent some time apparently tracing figures on the grass with her finger. She pulled out her cigarette case and put it away again without taking a cigarette.

She jerked her head half a dozen times, as if in defiance of some thought. She shrugged her shoulders twice, folded her arms and shivered as with a chill, sighed audibly three times, clicked her tongue impatiently, and for about one minute, one whole minute, she sat tensely still.

She hadn't been so nervous the night before. She hadn't, except for the little period when she was acting fearful of the men who were supposed to have been chasing her, seemed nervous at all.

It was the waiting, Gosseyn decided. She was geared to meeting people, and to handling them. Alone, she had no resources of patience.

What was it the man had said that afternoon? Neurotic! There was

no doubt of it. As a child she must have been denied that early null-A training so necessary to the development of certain intelligences. Most people could pick up something of training at any age, but some had to have childhood impregnation. Apparently, she was one of the latter.

Just how training could have been neglected in the home of a superbly integrated man such as President Hardie must be, was a puzzle. Whatever the reason, she was one human being whose thalamus was always in full control of her actions.

He could imagine her having a nervous breakdown.

The possibilities interested Gosseyn. At last, frowningly, he rejected the obvious solution. He was not prepared to exploit the neural weaknesses of women or men.

It would be nice, in his situation, to have someone who was for you all the way, even against her own family. But the means to bring that about would also be criminal.

Accordingly, love-making was out.

He continued to watch her there in that almost darkness. After ten minutes, she stood up and stretched, then she sat down again. She took off her shoes, and, rolling over towards Gosseyn, lay down on the grass.

She saw Gosseyn.

"It's all right," Gosseyn assured softly, "it's only me. I guess you heard me coming."

He guessed nothing of the kind, but she had jerked to a sitting position; and it seemed the best way to soothe her.

"You gave me a start," she said. But her voice was calm and unstartled, and properly *sotto voce*.

She had suave thalamic reactions, this girl.

The visualization of that started his thoughts anew on the problem of her, and on the events leading up to this moment:

Patricia Hardie DISGUISED. . .

Had RUN out to him. . .

On a DESERTED street. . .

How had she KNOWN he would be there?

Was he being FOLLOWED?

Or did they have some device attached to HIM that enabled them to keep track of him no matter where he went?

That was formulation number one. Two:

Had she driven up in the car that afternoon KNOWING he would see her.

If so, she knew that HE knew who she was.

Three: If THAT was true, then there was no doubt. . .

They were trying to FORCE reactions from him.

If he didn't react they would DEDUCE his weakness and uncertainty.

If he did react, he would play INTO their hands.

He intended to react.

He sank down on the grass near her; and let the feel of the night creep upon him.

The second night! Here was the second policeless night. It seemed hard to believe. He could hear the noises of the city, faint, unexciting,

quite unsuggestive. Where were the gangs and the thieves? They seemed unreal, examined *in absentia*, from the safety of this dark hiding place.

Perhaps the years and the great educational system had winnowed their numbers, leaving only the fearful legend and a few trivial wretches who slunk through the night seeking the helpless.

No, that couldn't be right. Men were becoming more brave, not less, as their minds grew progressively integrated with the structure of the universe around them.

Somewhere violence was being planned or performed.

Somewhere? Perhaps here!

Gosseyn looked at the girl. Then very softly he began to talk. He described his plight, the way he had been kicked out of the hotel, the amnesia that hid his memory, the curious delusion that he had been married to Patricia Hardie. "And then," he finished ruefully, "she turned out to be the daughter of the president, and very much alive."

Her silence, after his voice ceased, was prolonged. Gosseyn had time to think of the things he hadn't told her: the Machine giving him fifteen days to identify himself; his knowledge of who she was.

Patricia Hardie said: "These psychologists, such as the one you're going to—is it true that they're all people who have won the trip to Venus in the games, and have come back to Earth to practice their profession? And that actually no one else can go in for psychiatry and the related sciences?"

Gosseyn hadn't thought of that. But now she mentioned it—

"Why, yes," he said. "Others can train for it of course but—"

A flame of excitement titillated his nerves. He was conscious of a sudden eagerness, a desire for the moment of the interview with Dr. Enright to arrive. How much he might learn from such a man.

Caution came at that point, flashingly. Why had she asked *that* question, instead of commenting on his story as a whole?

In the dark he stared at her searchingly. But her face, her expression, was night-wrapped.

Her voice came again:

"You mean, you haven't the faintest idea who you are. How did you get to the hotel in the first place?"

Gosseyn laughed softly but bitterly; and it was no act.

"I have a memory of taking a bus from Cress Village to the airport at Nolendia; and then I distinctly remember being on the plane."

"Did you have any meals aboard?"

She seemed genuinely interested. And it was a good question.

Gosseyn took his time remembering. It was an intensional world into which he strove to penetrate, and as nonexistent as all such worlds. Memory never was the thing remembered, but at least with most people, when there was a memory, there normally *had* been a fact of similar structure.

His mind held nothing that could be related to physical structure. He hadn't eaten, definitely and unequivocally.

"There's usually one meal on a

transcontinental plane," the girl persisted.

Gosseyn didn't ask her how she knew that. She could have picked it up anywhere without ever being on a plane from California.

Besides, let them puzzle about whether he was acting dumb or actually dumb. Their tiny uncertainty could be a point in his favor.

The girl was speaking: "You really haven't the faintest idea what this is all about? You have no purpose, no plan of dealing with it? You're just moving along in a great dark?"

Gosseyn said: "That's right." And waited.

The silence was long. Too long. And the answer, when it came, did not come from the girl.

Somebody jumped on him, and held him down. He heard an "Eek!" from Patricia Hardie, and saw that she, too, had a dark figure kneeling on top of her.

Other figures swarmed out of the brush, and grabbed at Gosseyn.

He was on his feet, shoving at the first man. A tight horror made him fight even after a tangle of strong hands held him beyond his capacity to escape.

A man said: "I thought I saw these two here this morning."

Another chuckled: "This is the kind of catch I like to make: No fuss."

He broke off: "O.K., just put 'em in the cars, and let's get."

As he was bundled into the back seat of a roomy sedan, Gosseyn thought: Had these people come in response to a signal from the girl? Or were they—a gang?

A violent forward jerk of the car ended temporarily his tensed thalamic speculation.

## IV.

"Science is nothing but good sense and sound reasoning."

Stanislaus Leszcynski,
King of Poland, 1763

As the car raced north along deserted streets, Gosseyn forced himself to take stock of his situation.

There were two cars ahead of him, three behind. He could see their black, moving shapes through the windshield and in the rearview mirror. Patricia Hardie was in one of them, but in spite of straining his eyes, Gosseyn couldn't pick out which machine she was in.

Not that it mattered. There were too many cars, too many captors. Escape was for the moment out of the question.

Besides—Gosseyn smiled a tight, thoughtful smile—the very total of cars and men, and the distance they semed to have come for such apparently small game, suggested that the girl was among friends.

He'd have to find that out for sure, of course, but the feeling that it was so lifted the sick pressure from his innards. He was on his own again; whatever danger there was, was his.

It made him feel good by comparison with his first hideous fear. The fear that he *and* a girl had fallen into the hands of one of the night gangs of the policeless period.

Alone, he had nothing, almost literally nothing to lose except his life. And the courage of all the men who had ever died, consciously facing danger, was like an indestructible rock to fortify his null-A soul.

A lifetime of education that was not false to facts—even though unremembered in detail—had prepared him for this hour of uncertainty and menace.

He sat back more relaxed. But it cost an effort to bring his mind back from its wanderings, and concentrate it on the intricacies of his predicament:

Six cars and eighteen men. Gosseyn studied the four men in his car.

The driver was a heavy-set man, whose face, blurrily seen in the rear-view mirror, showed intent and square-built. The other man in the front seat sat twisted, facing back towards Gosseyn. He had a black pistol in one hand, which he half-held, half-supported on the upholstering.

It was a reasonably intelligent-looking face, but his gimlet eyes and the complacent way he moved his jaw and protruded his lower lip, somehow indicated a very slight acquaintance with the principles of general semantics.

The two men who sat on either side of Gosseyn looked like intelligent detective officers. *That* was something he could sink his mental teeth into, make his first test of his conviction of what was here.

Flashingly, Gosseyn estimated the level of abstraction on which these men would be living IF they were what he thought. He said coldly:

"You had better tell me very quickly by what authority you have arrested me, and where you are taking me?"

"Just keep quiet, and you'll know soon enough," the man on his right said gruffly.

*Detective!* There was no question now. The man had accepted his inference without the pause necessary to corticalthalamic integration.

He hadn't thought about his answer.

The fellow was stiffening as if a dim consciousness had come that he had given himself away.

"See here," he snarled, "where we're taking you, there'll be no nonsense about authority. How much dough you've got is what will count."

It was still not convincing. He was still the detective trying to act gangster, not the ganster reacting.

Gosseyn smiled mirthlessly, but he said nothing.

The picture was clarifying. The girl probably had had some tiny electronic signaling device, and she had used it to call the government agents. They, in turn, acting on some pre-planned strategy, were pretending to be gangsters capturing both the girl and himself.

It looked as if they cared what he might think about the whole business afterwards.

It looked as if the girl was to be left free of suspicion, to re-establish contact with him afterwards.

There was to be an afterwards.

Gosseyn drew a deep, shaky breath. Just what he had been

afraid of, he couldn't decide. But now, even if for the sake of appearances they took his pocketbook, he still had his luggage and two-thirds of his money in the security room of a respectable hotel.

And if the cash that he did have with him actually brought him knowledge, even one clue as to what this was all about, it would be microcosmic payment for macrocosmic gain.

He felt a desperate will to knowledge, a desperate conviction that nothing mattered but that he know. He must know the truth about himself.

A radio in the dashboard clattered into life. A mechanical voice said:

"Masterson, you can stop pretending with the prisoner. Miss Hardie tells me that there is no further need for it. Don't give him any information. Just stop acting as if you're gangster. That's all."

All? It was quite enough. Gosseyn had his shock. If they were dropping pretense, then he was not going to be released.

Before he could think about the potentialities of that, the cars made a great curve, and swooped into a tunnel. Minute by minute they raced forward through a dimly lighted paved cavern.

After about five minutes, the tunnel ahead grew lighter. Abruptly, the cars emerged into a circular, streamlined courtyard, and came to a halt.

Men began to pile out of them. Gosseyn had a glimpse of the girl climbing in a leisurely fashion from one of the forward machines. She didn't look in his direction. She stood for an instant easily, as if in thought; then she walked off towards a distant door that opened before her touch. Momentarily it revealed a dazzlingly bright anteroom, then the door closed, and the lesser brightness of the courtyard resumed drably.

A hawk-nosed man came over from another door, and looked in at Gosseyn. He was a big man, bigger than Gosseyn. He said with an unmistakable sneer:

"So this is the superman!"

It seemed a futile insult. Gosseyn started to carry on with his examination of the man's physical characteristics; and then the import of the words penetrated:

The man knew who he was.

His brain rocked. A singing warmth tickled along his nerves. Something closely akin to fire poured into his brain, and burned away there like a blazing beacon.

More intently, more concentratedly, he examined what the fellow had said.

Superman! Gosseyn mustered a measure of sardonicism. That at least didn't have any structural relation to the facts. Gilbert Gosseyn was a trained null-A whose brain had been damaged by a semi-amnesic calamity. He might prove worthy of Venus in the games, but he would simply be one of thousands of similarly successful contenders.

He had yet to show a single quality of structural difference between himself and other human beings.

Therefore the hawk-nosed individual was making small talk designed to irritate.

Gosseyn studied the man curiously. The sneer on the other's lips had relaxed a little. His expression was less cruel, his whole manner not so animalistically formidable. The fellow drawled:

"Ah, silence! The null-A pause, I suppose. Any moment now, your present predicament will have been integrated into control of your cortex. And semantically clever words will begin to sound forth."

Gosseyn had intended to speak. Now he closed his lips, astounded. After the moment, he was shocked.

Never before in his life had he heard Ā sneered at. And by a man who obviously knew something about it. His mind made a time-binding leap backwards: This, he thought, absorbed, was how religious folk had felt in the old days the first time an atheist or rationalist manifested verbal hostility towards their religion.

No! He rejected the comparison after a moment's consideration. It wasn't like that of course. In those days of violent emotionalism, a thousand years before, doubters received short shrift from the faithful. This hawk-nosed doubter could shout his opposition from the housetops, and people would merely look at him in amusement.

It seemed to Gosseyn that it might be a good thing for his own morale if he could feel some amusement right now. He said pityingly:

"I can only assume that you're a man who has failed at the games. Therefore you sneer at them. You poor fool!"

Surprisingly, the big man laughed. "I'm afraid you're the fool if you haven't wondered yet how a failure at the games—and I freely admit I failed—could be here in this center of man's power over man in a position of high authority. Think it over."

Gosseyn thought. And felt the color draining from his cheeks, slowly.

"But that's ridiculous," he began. And stopped. There was a deadly angle here.

*How much damage could people do who wanted to destroy a system—if no one cared what they were doing during the first eleven and three quarter hours—out of twelve—of their plotting?*

The grim speculation was cut short, as the crooked-nosed man motioned him curtly:

"Come along," he said. "You've got some more shocks coming. My name, by the bye, is Thorson. Jim Thorson. I can tell you that without fear of it going any further."

Gosseyn made no comment. He climbed out of the car, and fell in behind Thorson. Aware of several men right behind him, he followed the big man through an ornate door, and into the palace of the Machine, where President and Patricia Hardie lived.

He began to think of the necessity of making a determined effort to escape. But not yet. Funny, to feel that so strongly. To know that

learning about himself was more important than anything.

There was a long marble corridor that ended in an open oak door. Thorson held the door for Gosseyn, a smile twisting his long face. Then he came in, and closed it behind him, shutting out the guards who had been following Gosseyn.

Three people were waiting in the room: Patricia Hardie and two men. Of the latter, one was a fine-looking chap of forty-five or so who sat behind a desk. But it was the second man who snatched Gosseyn's attention.

He had been in an accident. He was a patched monstrosity. He had a plastic arm and a plastic leg, and his back was in a plastic cage. His head looked as if it was made of opaque glass; it was earless. Two human eyes peered from under a glass-smooth dome of surgical plastic.

He had been lucky in a limited fashion. From his eyes down, the lower part of his face was intact. He had a face. His nose, mouth, chin and neck were human. Beyond that, his resemblance to anything normal depended partly upon the mental concessions of the observer.

For the moment, Gosseyn was not prepared to make any concessions. He had decided on a course of reaction, a level of abstraction: boldness. He said:

"What the devil is that?"

The creature chuckled in a bass amusement. His voice, when he spoke, was deep as a viol's G string

"Let us," he said, "consider me as the 'X' quantity. And let 'X' equal any infinite value."

The reference to infinity interested Gosseyn, but he said nothing. In sizing up people, it wasn't always wise to tell them they had revealed a quality about themselves.

He glanced away from "X" over to the girl. Her gaze held his coolly, though a shade of heightened color crept into her cheeks. She had made a quick change into another dress, a slick evening gown. It gave a shine to her appearance that Teresa Clark had never had. When Gosseyn made no effort to withdraw his gaze, she said:

"You were awfully stupid. We couldn't seem to make you suspicious of me."

So her actions hadn't been accidental, except perhaps some of them. Gosseyn smiled to himself with a stiff amusement. Nonintegrated people couldn't help but be unaware of their weaknesses.

He decided to say nothing. Whatever she or they might think, the girl was a weak spot in the chain they were forging around him.

It was curiously hard to turn his attention to the other man. Even to his trained brain, the reorientation necessary to acceptance of President Hardie of Earth as a plotter, was a hurdle too big for easy surmounting.

But in the end there could be no shrinking from the identification. The man's resemblance to Patricia Hardie was unmistakable.

He had the hard eyes of the disciplinarian, the smile of a man who must be tactful and pleasant to many people. His lips were thin;

he looked as if he could cut an interview short, or keep it firmly to the point.

The man was an executive, capable, alert, accustomed to the exercise of authority.

He said now: "Gosseyn, we are men who would have been doomed to minor positions if we had accepted the rule of the Machine and the philosophy of A. We know we are capable. Ninety-nine percent of the world's history was made by our kind; and you may be sure it shall be so again."

He smiled bleakly: "I tell you this without explanations to emphasize the following instructions: Gosseyn, there are several guns pointing at you, all of them lethal. You will accordingly without fuss walk over to that chair"—he motioned with his right hand—"and you will submit to manacles and such other minor indignities."

His gaze traveled beyond Gosseyn. He said: "Thorson, bring over the necessary machines."

He was no time waster, President Hardie.

Gosseyn did not hold back. He knew better than to hope to escape from this room. He walked over and allowed Thorson to handcuff his wrists to the arms of the chair. Then watched with a tensed curiosity as the big man wheeled over a table with small, delicate-looking machines on it.

Silently, Thorson attached a dozen cupshaped devices from one of the machines to Gosseyn's skin with adhesives, six of them to his head and face, the other six to his throat, shoulders and the upper part of his back.

Gosseyn grew aware, a jerky awareness, that he was not the only overwrought person in the room. The two men, Hardie and the monstrosity, leaned forward in their chairs. Blue eyes and yellow-brown eyes glowed moistily avid.

The girl sat crouched in her chair, her legs drawn up, one hand rigidly holding a cigarette to her lips. She puffed at it automatically but she didn't inhale. She simply took the smoke into her mouth, then thrust it out again. She did this over and over.

Of the quartet, Thorson was the calmest. With steady fingers, he made some final adjustments on something in the machine that Gosseyn couldn't see, then looked questioningly at Michael Hardie.

But it was Gosseyn who broke the silence, who said thickly:

"I think you ought to listen to me for a moment."

He paused, not because he was finished. But because suddenly he felt desperate. He thought: what in the name of reason was going on here? This couldn't be happening to a law-abiding human being on the peaceful Earth of 2560 A.D.

"I feel," he said, and his voice sounded husky in his own ears, "like a child in a madhouse. You want something from me. For logic's sake, tell me what, and I'll do my best for you."

He caught hold of himself. He smiled wanly, said:

"Naturally, I value my life more than any fact that you can possibly require of me. I can say that safely because in this world of ours no individual matters to the extent that his ideas, his inventions, can be used to the detriment of mankind. Individual machines cannot sway the balance against the accumulated mass of science as employed by determined, courageous men in the defense of civilization. That has been proven. Unique science cannot win a war."

He halted, looked questioningly at Michael Hardie. "Is it anything like that? Any invention of my pre-semi-amnesic days!"

"No!" The speaker was "X". The cripple looked amused. He went on: "You know, this is really interesting. Here is a man who knows neither his purpose nor his antecedents, and yet he must have within him *something* that can destroy us all. I can't quite believe, my friend, that you are so innocent."

"Oh, it's true. He's telling the truth." Patricia Hardie lowered her feet to the floor, and let her cigarette hand dangle. She looked and sounded very earnest. "The lie detector at the hotel said that his conscious mind was not aware of his identity."

A plastic arm waved at her patronizingly. The bass voice was tolerant:

"My dear young lady, don't forget that machines are corruptible. Crang and I"—his voice grew significant—"have proved that to the satisfaction of approximately a million men, including your father."

He broke off: "I don't think any statement Gosseyn makes, or that is made about him by ordinary brain-testing devices, can be accepted by us."

President Hardie nodded curtly. "He's right, Pat. Don't forget that you don't know who he is. With this man we can take no chances whatsoever."

Almost, it was like listening to a foreign language. Gosseyn said hopelessly:

"Let's start at the beginning. Who do you think I am?"

The moment he had spoken, he felt breathless. His muscles grew rigid; his eyes widened. He hadn't expected to utter *the* question just like that, without leading up to it by careful adherence to the laws of persuasive rhetoric.

He waited.

It was "X" who broke the developing silence. The creature man laughed heartily.

"You don't think we're going to tell you that. Dead men, of course, tell no tales but—"

He stopped. He laughed again, but there was an edge of irritation in his amusement. He said:

"I seem to have let something slip. Well, it doesn't matter much. You must have realized by this time that we couldn't let you out of here alive."

The incredible thing was that he hadn't. Like some ever hopeful idiot, he hadn't really let himself think about personal death coming out of this.

Suddenly, now, he saw that these

men were remorseless. Just to what enormous extent they were committed to treason, Gosseyn couldn't judge. But *they* considered they had gone too far to turn back. They must have had null-A training to a point, but somehow they had leveled off; like the strong men of old, they had leveled off on a low abstraction — dominated by courage and the will to dark achievement.

The level of power, the level of killer—

Hardie was shaking his leonine head. "No, it doesn't matter what he knows. In fact, I think the examination of his brain by Thorson might be assisted to some extent if he is given information. What do you think, Jim?"

Thorson shrugged doubtfully. "We three are among the few who know about him. It seems dangerous to me even to include him." He finished grudgingly. "It won't hurt, I suppose."

"Miss Hardie," said "X". "Leave the room, please."

The girl's lips tightened; her eyes glinted.

"I prefer to stay," she said. She tossed her head defiantly. "After all, I took risks."

Nobody said anything. The half-man simply looked at her with eyes that seemed to Gosseyn implacable. Patricia Hardie stirred uneasily, then looked to her father as if for support. The great man evaded her gaze, twisting uncomfortably in his chair.

She got up, her lip curling. "So he's got you buffaloed, too," she said with a sneer. "Well, don't

think he scares me. I'll put a bullet into him one of these days that no surgeon will be able to put a plasto over."

She went out, and slammed the door. Hardie said:

"Shall I tell Gosseyn, or will you?"

"I will," said "X".

He took about fifteen minutes. When he had finished, and the reverberations of his bass voice had died from the room, Gosseyn said unsteadily:

"But that's impossible. Some coincidence of presence would explain it. And besides—"

There was no "besides", nothing to say. The identity was too tremendous. And meaningless. He saw that Thorson's fingers were hovering over the power switch of the machine on the table.

The moving fingers twisted strongly.

There was a click and a hum.

At first nothing happened. He was all tensed to resist energy flows. And there weren't any.

Blankly, Gosseyn watched the machine. It hummed and throbbed. Like so many devices, it had its own special electron tubes. Whether they were used for controlling the speed of unseen motors, or for amplifying some obscure sound in his body, or converting energy, or timing changes in an invisible process, or for any one of a hundred other tasks, was impossible for Gosseyn to decide.

Some of the tubes peeped brightly out of holes in an opaque curving plastic instrument box. Others, he knew, were too sensitive to be exposed to anything so violent as the normal temperature and brightness of a room. They would be hidden deep in their little inclosures with only a minute fraction of their easily irritated glass-smooth forms connected with the outside.

Watching hurt his eyes. He kept blinking; and the tears that resulted, blurred his vision. With an effort, Gosseyn looked away from the table and its machines. The movement must have been too sudden for his strained nerves. Something banged inside his head, and a violent headache began.

Realization came with a start that this was what the machine was doing to him.

It was as if he had sunk to the bottom of a pool of water. There seemed to be heavy pressure on him from every side, *inside* included. As from a great distance, he heard Thorson's calm voice lecturing his hearers:

"This is an interesting machine. It manufactures a variation of nervous energy. The energy is absorbed through the dozen nodes I have placed on Gosseyn's head and shoulders, and flows evenly along all the nerve paths that have been previously established in his body. It does not itself establish any new patterns whatsoever.

"You must think of it as an impulse that rejects instantly the slightest difficulty. It recoils from obstacles that vary by approximately one percent from what to it is normal.

"It is a supreme adherent of the school of energies that follow the law of least resistance."

It was hard, thinking against the sound of the voice. Gosseyn's thought waxed and waned, never quite clearing. His identity: what did it mean? . . . impossible . . . It did imply a purpose of course, and a tremendous one, but—

His mind couldn't form a complete thought. He strained against the blurring power of the voice and against the energy that was flowing through him. Nothing came but spasms of ideas, and Thorson's voice:

"The medically interesting characteristic of this artificial flow of nervous energy is that it is photographable. In a few moments, as soon as the movement of artificial energy has penetrated the remotest easy paths, I'll obtain several negatives, and make some positive prints. When enlarged in segments through a projector, the prints will show us in what parts of his brain his memory is concentrated. Since science has long known the nature of the memory stored in every cell group, we can then decide where to concentrate the pressures that will force the particular memory we want onto the verbal level.

"A further use of this machine, using more power, and combined with a complicated word-associations system-formula will perform the actual operation."

He shut off the machine, and pulled some film out of the camera. He said:

"Watch him!"

He disappeared through the nearest door.

Watching wasn't necessary. Gosseyn couldn't have stood steadily on his feet. His brain was turning rapidly in an illusion of spinning. Like a child that has whirled around and around too often, he had to unwind. Thorson was back before he could see straight.

He entered slowly; and, ignoring both "X" and Hardie, walked over to Gosseyn. He had two prints in his hand, and he paused with them directly in front of his prisoner, and stared at him. At last he spoke, but not in English. It was a strange language, heavy with consonants. He paused finally, questioningly.

"What kind of jargon is that?" said Hardie from Gosseyn's left.

Thorson waved at him, an impatient command to be silent. It was a startlingly discourteous action; and what was more, he seemed to be quite unaware that he had made it.

He stood there; and suddenly his personality was not just that of one more individual. *He had been holding it in.* Underneath the cold exterior was a blaze of nervous energy, a supremely potent human being.

And now, Gosseyn saw that his manner was not one of deference to superiors. It was command, assured, final, unequivocal. When he obeyed, it was because he wanted to. When he disagreed, *his* way went.

"X" wheeled over, and gently removed the prints from Thorson's fingers. He handed one to Hardie.

The two men examined the photographs with two distinct and separate emotions.

"X" half-climbed out of his chair. The movement did revealing things to his semi-plastic body. It showed his height. He was taller than Gosseyn had thought, at least five eight or nine. It showed how his plastic arm was fastened to the plastic cage around the middle of his body.

It showed that his face could look startled. He half-whispered:

"It's a good thing we didn't let him go see that psychiatrist. We struck at the right moment—at the beginning."

Michael Hardie looked irritated. "What are you two babbling about? Don't forget that I'm the president of Earth entirely because of your ability to control the games of the Machine. I never could get all this null-A stuff about the human brain into my head.

"All I see is a solid core of brightness. I presume that those are the lines of nerve patterns, and that they will untangle when enlarged on a screen."

This time Thorson seemed to hear. He walked over, pointed at something on the print, and whispered an explanation that slowly drained the color from Hardie's face.

"We'll have to kill him," he said grayly. "At once."

Thorson shook his head irritably. "Whatever for? What can he do? Warn the world!" He grew more intent. "Notice there are no bright lines near *it*."

"But suppose he finds how to use it?" That was Harding.

"In twenty-four hours or less!" Thorson was incredulous. "Haven't you ever heard of George the boy who lived with the animals? Gosseyn's in the same boat."

There were whispers of objection, to which Thorson responded furiously:

"Surely, you don't expect him to escape from *that* dungeon. You must be going batty. Or have you been reading Aristotelian fiction, where the hero always wins?"

There was no question finally of who was going to have their way. Men came and carried Gosseyn, chair and all, manacles and all, down four flights of stairways, and into a solid steel dungeon. The final stairs led down *into* the dungeon; and when the men had climbed back to the floor above, a motor lifted the whole staircase through the hole in the ceiling twenty feet above.

A steel door clanged down over the hole, heavy bars were slammed home; and there was silence.

## V.

"Miraculous cures seldom occur. Despite their small number, they prove the existence of organic and mental processes that we do not know. They show that certain mystic states . . . have definite effects."

A. C.

Gosseyn got up from the chair, and paced up and down his cell.

The darkness was an impenetrable cloak wrapped around his eyes. But by carefully measuring the dis-

tance from wall to wall, and setting his mind to a rhythm of eight steps, he put the limitation out of his conscious thought.

He grew aware of the palpitations of his body. His heart hammered; his temples throbbed; and every few moments he felt faint and ill with reaction. There seemed no end to the perspiration that poured from him.

"I'm afraid," he thought. "Horribly, wretchedly afraid."

But how could that be, if his identity was what it was? Could such a being as he was, know fear?

Gosseyn smiled wanly. There was no question about that. The fear existed, an almost palpable force. Except that thinking about it made a difference in the direction of self-control.

Fear must derive from the very colloids of a substance. A flower closing its petals for the night was showing fear of the dark, but it had no nervous system to transmit the impulse, and no thalamus to receive and translate the electric message into an emotion.

To and fro, to and fro, Gosseyn paced. A human being, he thought jerkily, was a physico-chemical structure, whose awareness of life was derived from an intricate nervous system. After death, the body disintegrated; the personality survived as a series of distorted impulse-memories in other people's nervous systems.

Dimmer, dimmer would those memories grow, as the years flew by.

Gilbert Gosseyn, at a maximum estimate, would survive as a nerve impulse in other human beings for approximately two years; as an emulsion on a film negative for several score years; as an electronic pattern in a series of cathode-ray cells for perhaps two centuries.

None of the potentialities diminished even fractionally the flow of perspiration from his body in that hot, almost airless room.

"I'm as good as dead," he thought in agony. "I'm going to die. I'm going to die."

He realized his nerve was breaking.

A sudden oxygen-lack fatigue seized him. He fumbled his way to the chair, and sank breathlessly into it. Sitting there, he played absently with one of the manacles. Several times he ran the sensitive tips of his fingers around the closed circle of steel that had held his right wrist.

Lucky he had gotten rid of those tightly binding things.

Lucky—what?!?

*He had no memory of working his hands out of the manacles.*

His mind leaped back violently, striving to visualize the momentary incidents. He had been carried manacled to the chair, and the chair had been deposited with a rough casualness onto the metal floor of the cell. Then the men had gone.

And he had stood up in a fever of excitement, somehow out of the manacles.

His brain began to seesaw. His body and mind as a whole throbbed with a wild surmise: how? *how?* HOW?

A light flashed into brilliance on

the ceiling; a metal slot was shoved open. A voice said:

"Yes, Mr. Thorson, he's doing fine. He—" The voice collapsed like a pricked balloon. Then: "Jumpin' magicians! he's out of the handcuffs!"

There was a bellowing, muffled by the metal barrier. Then the heavy door in the ceiling lifted, and the staircase came rushing down towards the floor. Two men with submachine guns stood on the lower step. They leaped to the floor when the stairway still had three feet to go, and took up positions in opposite corners.

Their guns started with implacable alertness at Gosseyn, where he sat, held rigid in the chair by the immediacy of the threat.

Other men crouched at the top of the stairs with other equally alert guns.

Minutes passed. And then workmen began to edge down the stairs carrying a table. In quick succession, the machine that had already been used against Gosseyn, and several others of different shape and purpose, were carted down, and bolted to the table.

The workmen retreated hastily up the stairs.

Six detectives trooped down gingerly. Two of them examined Gosseyn's hands and wrists.

"His hands don't look small," said one. He frowned, and slowly straightened. "O.K.!" he said, "chain him to the chair. And good."

They used metal clamps, pinning Gosseyn's waist, then his shoulders, his upper arms, his elbows and his wrists. The thoroughness of it did sick things to the pit of Gosseyn's stomach.

The detectives remained. About five minutes went by. There was a clatter of footsteps on the metal stairway. The big form of Thorson came briskly down into the cell.

"I'm afraid, Gosseyn," he said with an unexpected impersonalness, "I'll have to hurt you this time. The pressure I'm now going to apply to your brain frequently causes lesions and insanity. Sorry—but you can see for yourself that we can't waste time, or take chances with a man like you."

Gosseyn saw his own shadow lengthen on the wall ahead of him. He did not turn to look at the source of the light, nor did it occur to him to answer the yells of the men carrying the light.

He ran on, the pain in his mind like living fire. He had no remembrance of what had become of Thorson, or of how he had escaped from the dungeon. His mind was an agonized, conscious mass inside his head.

He must get out. He must get away from these corrupted grounds. The Machine, he thought in a daze of hope, if he could get to the Machine a third of a mile away, there would be people; even though it was dark, there would be people.

And there would be the Machine itself.

He came to the wall of a room, a wall that had no door in the direction he was going. After he was

past the wall, a great wonder came as to how he had done it. His mind reached and reached for the answer, and almost became sane from the very strength of his will to know.

But not quite sane. The uncertainty, the fever began to come back. He felt his thought sinking, down, down, towards the level of pain reaction.

One final struggle he made. And thought amazed: If this was what he could do, knowing nothing of his powers, then what potentialities awaited him when he finally learned to control the new function.

The thought faded. His brain grew blank. He could hear himself breathing hard. There was foam in his mouth. He could feel the aching tiredness of his legs.

He came to a door, and stood afraid that it would be dangerous to open it. After a moment, he edged mindlessly along the wall—and went *through* the wall.

There were two people in the room, but for a minute neither saw the intruder. President Hardie, whose back was to Gosseyn, was saying in a quiet, strong voice to his daughter:

"I haven't the faintest idea, Pat. The alarm came through a few moments ago. We've got a monster loose in the palace."

Monster! Gosseyn tried to visualize that conception of himself. But it was too one-valued; no image would come. Throughout he had been unable to imagine himself as—not human.

He saw that the girl's eyes were sparkling.

"He's really somebody then?"

Her father was grim. "He can destroy us all."

Patricia Hardie said nothing. She had half turned in the chair in which she was lounging; and it was from that position that she saw Gosseyn.

Something of her capacity for handling situations involving people showed in that instant. Her eyes widened the slightest bit. Then she yawned lazily.

"I think," she said, "I'll go RIGHT"—she lingered over the word—"up to bed. Maybe I'd better use the HALL CLOSET stairs just outside here. It leads to within twenty feet of my room."

Her father nodded, more nervous now. "Send in some guards from the anteroom. I don't feel safe while that fellow is abroad."

She got to her feet, humming noisily though musically. The sound muffled Gosseyn's movements. He followed her directions to the letter; and every word was so. The door to the right led to a hall; and there was a hall closet with a narrow staircase leading to the second floor. He reached the girl's room without seeing a single person.

A subtle aroma of perfume identified the bedroom suite. From the French windows near the canopied bed, the atomic beacon of the Machine blazed so close that it almost seemed to Gosseyn he could put forth his hand, and grasp the light.

He wasted no time. Patricia Hardie's action had two explanations; Gosseyn thought of them both, vaguely but effectively:

She had changed her changeable

mind about him. Or else had pretended to help in order to get him out of the room where she and her father were alone, briefly without protection. Out of the room, and toward some definite area, where he could be surrounded.

He couldn't take the chance. The French windows opened onto a tree-screened balcony. Below, was a garden inclosed only by shrubs and flowers; and beyond, the smooth lawns and boulevards that led to the Machine.

Gosseyn was a hundred feet from the base, the almost deserted base of the Machine, when a dozen cars careened from behind a line of trees, where they had been hiding; and guns opened fire on him.

One wild shout Gosseyn uttered at the Machine: "Help me! Help!"

Aloof and unheeding, the Machine towered above him. If it was true, as legend said, that it was able to defend itself and its grounds, then here apparently was no reason for action. Not by a flicker of a tube did it show awareness of the outrage that was being done in its presence.

Gosseyn was crawling frantically along the grass, when the first bullet actually struck him. It hit his shoulder and sent him spinning half a dozen feet into the path of a burning energy beam. His clothes and flesh flared in an insanity of flame; and then he had rolled over; and the bullets were focused again. They began to rip him apart, as he burned with an incandescent fury.

Even as his consciousness sank into night, he could feel the unrelenting fire, and the bullets searching through his writhing body. The blows and the flame tore at every vital organ in his body, at his legs, his heart, his lungs, everything, even after he had stopped moving. His last dim thought was the infinitely sad, hopeless realization that now he would never see Venus and its unfathomed mysteries.

Somewhere along there, death came.

## VI.

"To one who finds no sense in the universe
And doubts survival, my advice would be—
Set your affairs in order, hire a hearse,
Choose some snug cemetery, and wait and see."

B.M.

"Where was he found?" said a man's voice.

"Lying near the Machine!" The reply was by a woman, contralto-toned.

"And he doesn't belong on Venus?"

"No, there is no record of him in Registry. He is to be questioned as to how he got to Venus, then killed. I'm sorry you weren't here. But then, you're away so often. You would have had him taken straight back, wouldn't you?"

"I imagine so; there's nothing wrong with him that I can see. But, of course, you couldn't know."

A pause; then the man again:

"Poor chap!" His voice was sympathetic. "Amazingly fine phys-

ical speciman. Well"—he must have shrugged—"it's the law, and a proper one, I think."

They went away, closing a door quietly. Gosseyn lay in the bed like a stone. For the minute or so that the voices had sounded in his presence, his brain had been a composite of ears and the simple impression of what the ears were hearing.

Nothing else! The words penetrated to no other part of his mind. They had no meaning connected with him. He was an inanimate object possessed of the capacity for accurately absorbing sounds.

Just when another thought came, Gosseyn had no clear awareness afterwards. Actually the first part of the developments that followed were not really thoughts.

There was a period when he could feel his body lying on the bed, could feel the pressure of the sheets, held up by the springs—pressing him.

No mental image of the bed was involved, what it looked like, the materials composing it. But gradually the impression in his mind extended: Himself being held up by the bed, the bed by the floor, the floor by metal and concrete foundations—

It was a normal null-A unfolding of thought continuity, the instinctive attempt of a high trained mind to orientate itself to its environment as a whole. He let the thought flow on:

. . . The foundations by the soil of Venus, solidly, strongly supported bed on the impregnable planetary base that was Venus.

Venus? The slow flow of impressions ceased. Venus!! But he wasn't on Venus, he thought astounded. He was on Earth.

Something of memory awakened in a remoter section of his mind. The trickle of impulse-patterns became a stream, then a great, dark river rushing towards a wide sea.

"I died," he told himself. "I was shot and burned to death."

He cringed with the tensed remembrance of hideous pain. His body pressed hard against the bed—then slowly his mind opened out again; and the fact that he was alive with the memory of having been killed became less a thing of remembered agony, more a puzzle, a paradox that had no apparent explanation in a null-A world.

The fear that the pain would resume dimmed with the passing of the uneventful minutes. His thought, in that curious semiconscious world in which he had his momentary being, began to concentrate on different aspects of his situation.

He remembered Patricia Hardie and her father. He remembered "X" and the implacable Thorson. There was some curious method of escape that he had used. And something they had told him—They had told him who he was.

Gosseyn's brain poised, stunned.

Who was he?

There was nothing in his memory about that, nor about his escape. He had forgotten. Or else the knowledge had been extirpated from his brain—a new deliberately created semi-amnesia, as inexplicable as the

earlier attempt to conceal from him his identity.

The realization had an enormous purely physical effect on him. He started up in the bed, jerked his eyes open—and half fell, half climbed to the floor.

He lay there face downwards, his knees drawn upwards, partly supporting him. He was aware that it was very dark, both inside and outside his skin. The inside darkness, the dizziness, went out of him slowly. Awareness remained that he had strained his muscles by that spasmodic movement, but that otherwise he was all right.

He probed for the edge of the bed with one hand. Then, using the bed for support, lifted himself, climbed back under the thin sheets, and looked around him.

There was nothing to see. The room was pitch dark; obviously the plasto-windows were electronically darkened after the manner of all hospital rooms. Somewhere on the bed would be a control board to operate such devices. As soon as he found it, he could carefully investigate his extensional environment; and, since remaining in the room would mean death—

Gosseyn's brain made a whirlwind stop. The clear-cut memory of the words he had heard in the remote period when he first began to regain consciousness, shivered into him with all its potent import.

. . . A law that people who were on Venus illegally had to be killed . . . He felt a mental anguish.

Before he could think about it, the door opened softly. There was a flare of light. A man and a woman came in.

Bright, bright light! Gosseyn closed his eyes; and so unconsciously made *the* pause of thalamic-cortical integration. His brain, trained to produce that very integration, did so now, automatically. When he opened his eyes, he was fully sane and adjusted to organized thought. All his dreamlike fears were gone, as if they had never existed. Cool and thoughtful, though tensed and alert, he looked out at the small, hostile world of his room.

He glanced at the man and the woman, then at the room, and then out through the plasto-windows. One look *there;* and the room couldn't hold his attention!

The room became an inclosing fullness of bright walls and scant though shining furniture, a base from which his gaze could soar. It and the people in it were overshadowed, dwarfed by the scene outside.

The building, the bedroom, seemed to be on a hillside overlooking a valley. Not too high a hillside, because through the lower edge of the window he could see a wide, badly discolored river. It was beyond the river that the giant trees began.

There was instantly no question but that he was not on Earth. Cyclopean were those trees! One, two, three thousand feet they towered into the misty heavens. They started about a mile away; and each tree was as thick at the base as a normal city block. The

branches began low down; and the trees tangled with each other in a fantastic intertwining of gigantic limbs and endless foliage.

It was impossible to see for sure, but Gosseyn had the impression that the forest of titans stretched away into the remote and verdant wilderness.

"This is surprising," said the man, "he seems startled by the trees, as if he hasn't seen them before."

Very carefully, Gosseyn drew his mind and his gaze back into the room. He was, he discovered, sitting bolt upright in the bed.

He let himself sink back onto the pillow; and from that prostrate position he surveyed the two people, the man and the woman, his captors, his keepers. The man was a fine-looking blond-haired chap, the woman was small and dark and good-looking in a healthy, intelligent fashion. Knowing that they had either won the trip to Venus in the games, or that they were descendants of past victors, helped to fill Gosseyn's swift appraisal. But even that was not enough to etch them in his mind as personalities.

Two people, a man and a woman —Venusians! The man said:

"Don't be alarmed. You are on Venus. I am a doctor."

"Venus!" said Gosseyn.

He made it sound incredulous. He put fear and wonder into it. He put all his determination that they should not suspect that he had overheard their discussion of the legal necessity of killing him.

He saw that they were unarmed; the man did not wear an energy defensive belt around the waist of his shorts. And the woman's brief skirt and brassiere couldn't possibly have hidden a weapon or a defensive device of any known design.

Now! Gosseyn thought tensely. Now was the time to act, before they made plans to imprison him. Before they could get out of the room.

Could he do it? He lay there, cold and calculating, but conscious of an intense hot spot starting in the pit of his stomach, spreading slowly. Did he have the strength, the physical co-ordination necessary to violent action? He who a few minutes before had collapsed dizzily from the slightest movement!

He realized that he had to have the strength.

He swung his legs from under the quilt, and out over the edge of the bed. It was a little startling, in the presence of a woman, to discover at that ultimate moment, for the first time, that he was stark naked.

But there was no stopping for modesty's sake.

"Venus!" he said.

He needed the exclamation, to make it look as if he was merely reacting physically in surprise. It gave him time to launch himself at the man.

The doctor struck at him. It was a weak blow, the blow of a surprised man, reacting swiftly. It struck Gosseyn on the shoulder; and if he had been a smaller man, less superbly muscled, it might have stopped him even then.

But he wasn't. And the man had

(*Continued on page 156*)

# Into Thy Hands

## by LESTER DEL REY

*The trouble with robots was that, even when they had knowledge, they didn't have sense. They tended to know only what they were taught. That made one robot a religious maniac, and one a prisoner!*

Illustrated by Williams

Simon Ames was old, and his face was bitter as only that of a confirmed idealist can be. Now a queer mixture of emotions crossed it momentarily, as he watched the workmen begin pouring cement to fill the small opening of the domelike structure, but his eyes returned again to the barely visible robot within.

"The last Ames' Model 10," he said ruefully to his son. "And even then I couldn't put in full memory coils! Only the physical sciences here; biologicals in the other male form, humanities in the female. I had to fall back on books and equipment to cover the rest. We're already totally converted to soldier robots, and no more humanoid experiments. Dan, is there no way conceivable war can be avoided?"

The young Rocket Force captain shrugged, and his mouth twitched unhappily. "None, Dad. They've fed their people on the glories of carnage and loot so long they have to find some pretext to use their hordes of warrior robots."

"The stupid, blind idiots!" The old man shuddered. "Dan, it sounds like old wives' fears, but this time it's true; unless we somehow avoid or win this war quickly, there'll be no one left to wage another. I've spent my life on robots, I know what they can do—and should never be made to do! Do you think I'd waste a fortune on these storehouses on a mere whim?"

"I'm not arguing, Dad. God knows, I feel the same!" Dan watched the workmen pour the last concrete, to leave no break in the twenty-foot thick walls. "Well, at least if anyone does survive, you've done all you can for them. Now it's

in the hands of God!"

Simon Ames nodded, but there was no satisfaction on his face as he turned back with his son. "All we could—and never enough! And God? I wouldn't even know which of the three to pray survives—science, life, culture." The words sighed into silence, and his eyes went black to the filled-in tunnel.

Behind them, the ugly dome hugged the ground while the rains of God and of man's destruction washed over it. Snow covered it and melted, and other things built up that no summer sun could disperse, until the ground was level with its top. The forest crept forward, and the seasons flicked by in unchanging changes that pyramided decade upon century. Inside, the shining case of SA-10 waited immovably.

And at last the lightning struck, blasting through a tree, downward into the dome, to course through a cable, short-circuit a ruined timing switch, and spend itself on the ground below.

Above the robot, a cardinal burst into song, and he looked up, his stolid face somehow set in a look of wonder. For a moment, he listened, but the bird had flown away at the sight of his lumbering figure. With a tired little sigh, he went on, crashing through the brush of the forest until he came back near the entrance to his cave.

The sun was bright above, and he studied it thoughtfully; the word he knew, and even the complex carbon-chain atomic breakdown that went on within it. But he did not know how he knew, or why.

For a second longer he stood there silently, then opened his mouth for a long wailing cry. "Adam! Adam, come forth!" But there were doubts in the oft-repeated call now and the pose of his head as he waited. And again only the busy sounds of the forest came back to him.

"Or God? God, do you hear me?"

But the answer was the same. A field mouse slipped out from among the grass and a hawk soared over the woods. The wind rustled among the trees, but there was no sign from the Creator. With a lingering backward look, he turned slowly to the tunnel he had made and wriggled back down it into his cave.

Inside, light still came from a single unbroken bulb, and he let his eyes wander, from the jagged breech in the thick wall, across to where some ancient blast had tossed crumpled concrete against the opposite side. Between lay only ruin and dirt. Once, apparently, that half had been filled with books and films, but now there were only rotted fragments of bindings and scraps of useless plastic tape mixed with broken glass in the filth of the floor.

Only on the side where he had been was the ruin less than complete. There stood the instruments of a small laboratory, many still useful, and he named them one by one, from the purring atomic generator to the projector and screen set up on one table.

Here, and in his mind, were order

and logic, and the world above had conformed to an understandable patter. He alone seemed to be without purpose. How had he come here, and why had he no memory of himself? If there was no purpose, why was he sentient at all? The questions held no discoverable answers.

There were only the cryptic words on the scrap of plastic tape preserved inside the projector. But what little of them was understandable was all he had; he snapped off the light and squatted down behind the projector, staring intently at the screen as he flicked the machine on.

There was a brief fragment of some dark swirling, and then dots and bright spheres, becoming suns and planets that spun out of nothing into a celestial pattern. "In the beginning," said a voice quietly, "God created the heavens and the earth." And the screen filled with that, and the beginnings of life."

"Symbolism?" the robot muttered. Geology and astronomy were part of his knowledge, at least; and yet, in a mystic beauty, this was true enough. Even the lifeforms above had fitted with those being created on the screen.

Then a new voice, not unlike his own resonant power, filled the speaker. "Let us go down and create man in our image!" And a mist of light that symbolized God appeared, shaping man from the dust of the ground and breathing life into him. Adam grew lonely, and Eve was made from his rib, to be shown Eden and tempted by the serpentine mist of darkness; and she tempted the weak Adam, until God discovered their sin and banished them. But the banishment ended in a blurr of ruined film as the speaker went dead.

The robot shut it off, trying to read its moaning. It *must* concern him, since he alone was here to see it. And how could that be unless he were one of its characters? Not Eve or Satan, but perhaps Adam; but then God should have answered him. On the other hand, if he were God, then perhaps the record was unfulfilled and Adam not yet formed, so that no answer could be given.

He nodded slowly to himself. Why should he not have rested here with this film to remind him of his plan, while the world readied itself for Adam? And now, awake again, he must go forth and create man in his own image! But first, the danger of which the film had warned must be removed.

He straightened, determination coming into his steps as he squirmed purposefully upwards. Outside the sun was still shining, and he headed toward it into the grossly unkempt Eden forest. Now stealth came to him as he moved silently through the undergrowth, like a great metal wraith, with eyes that darted about and hands ready to snap forward at lightning speed.

And at last he saw it, curled up near a large rock. It was smaller than he had expected, a mere six feet of black, scaly suppleness, but the shape and forked tongue were unmistakable. He was on it with a blurr of motion and a cry of

elation; and when he moved away, the lifeless object on the rock was forever past corrupting the most naïve Eve.

The morning sun found the robot bent over what had once been a wild pig, a knife moving precisely in his hand. Delicately he opened the heart and manipulated it, studying the valve action. Life, he was deciding, was highly complex, and a momentary doubt struck him. It had seemed easy on the film! And at times he wondered why he should know the complex order of the heavens but nothing of this other creation of his.

But at last he buried the pig's remains, and settled down among the varicolored clays he had collected, his fingers moving deftly as he rolled a white type into bones for the skeleton, followed by a red clay heart. The tiny nerves and blood vessels were beyond his means, but that could not be helped; and surely if he had created the gigantic sun from nothing. Adam could rise from the crudeness of his sculpturing.

The sun climbed higher, and the details multiplied. Inside the last organ was complete, including the grayish lump that was the brain, and he began the red sheathing of muscles. Here more thought was required to adapt the arrangement of the pig to the longer limbs and different structure of this new body; but his mind pushed grimly on with the mathematics involved, and at last it was finished.

Unconsciously he began a crooning imitation of the bird songs as his fingers molded the colored clays to hide the muscles and give smooth symmetry to the body. He had been forced to guess at the color, though the dark lips on the film had obviously been red from blood below them.

Twilight found him standing back, nodding approval of the work. It was a faithful copy of the film Adam, waiting only the breath of life; and that must come from him, be a part of the forces that flowed through his own metal nerves and brain.

Gently he fastened wires to the head and feet of the clay body; then he threw back his chest plate to fasten the other ends to his generator terminals, willing the current out into the figure lying before him. Weakness flooded through him instantly, threatening to black out his consciousness, but he did not begrudge the energy. Steam was spurting up and covering the figure as a mist had covered Adam, but it slowly subsided, and he stopped the current, stealing a second for relief as the full current coursed back through him. Then softly he unhooked the wires and drew them back.

"Adam!" The command rang through the forest, vibrant with his urgency. "Adam, rise up! I, your creator, command it!"

But the figure lay still, and now he saw great cracks in it, while the noble smile had baked into a gaping leer. There was no sign of life! It was dead, as the ground from which it came.

He squatted over it, moaning, weaving from side to side, and his fingers tried to draw the ugly cracks together, only to cause greater ruin. And at last he stood up, stamping his legs until all that was left was a varicolored smear on the rock. Still he stamped and moaned as he destroyed the symbol of his failure. The moon mocked down at him with a wise and cynical face, and he howled at it in rage and anguish, to be answered by a lonely owl, querying his identity.

A powerless God, or a Godless Adam! Things had gone so well in the film as Adam rose from the dust of the ground—

But the film was symbolism, and he had taken it literally! Of course he had failed. The pigs were not dust, but colloidal jelly complexes. And they knew more than he, for there had been little ones that proved they could somehow pass the breath of life along.

Suddenly he squared his shoulders and headed into the forest again. Adam should yet rise to ease his loneliness. The pigs knew the secret, and he could learn it; what he needed now were more pigs, and they should not be too hard to obtain.

But two weeks later it was a worried robot who sat watching his pigs munch contentedly at their food. Life, instead of growing simpler, had become more complicated. The fluoroscope and repaired electron microscope had shown him much, but always something was lacking. Life seemed to begin only with life; for even the two basic cells were alive in some manner strangely different from his own. Of course God-life might differ from animal-life, but—

With a shrug he dismissed his metaphysics and turned back to the laboratory, avoiding the piglets that ambled trustingly under his feet. Slowly he drew out the last ovum from the nutrient fluid in which he kept it, placing it on a slide and under the optical microscope. Then, with a little platinum filament, he brought a few male spermatozoa toward the ovum, his fingers moving surely through the thousandths of an inch needed to place it.

His technique had grown from failures, and now the sperm cell found and pierced the ovum. As he watched, the round single cell began to lengthen and divide across the middle. This was going to be one of his successes! There were two, then four cells, and his hands made lightning, infinitesimal gestures, keeping it within the microscope field while he changed the slide for a thin membrane, lined with thinner tubes to carry oxygen, food, and tiny amounts of the stimulating and controlling hormones with which he hoped to shape its formation.

Now there were eight cells, and he waited feverishly for them to reach toward the membrane. But they did not! As he watched, another division began, but stopped; the cells had died again. All his labor and thought had been futile, as always.

He stood there silently, relinquishing all pretensions to godhood. His mind abdicated, letting the

dream vanish into nothingness; and there was nothing to take its place and give him purpose and reason—only a vacuum instead of a design.

Dully he unbarred the rude cage and began chasing the grumbling, reluctant pigs out and up the tunnel, into the forest and away. It was a dull morning, with no sun apparent, and it matched his mood as the last one disappeared, leaving him doubly lonely. They had been poor companions, but they had occupied his time, and the little ones had appealed to him. Now even they were gone.

Wearily he dropped his six hundred pounds onto the turf, staring at the black clouds over him. An ant climbed up his body inquisitively, and he watched it without interest. Then it, too, was gone.

"Adam!" The cry came from the woods, ringing and compelling. "Adam, come forth!"

"God!" With metal limbs that were awkward and unsteady, he jerked upright. In the dark hour of his greatest need, God had finally come! "God, here I am!"

"Come forth, Adam. Adam! Come forth, Adam!"

With a wild cry, the robot dashed forward toward the woods, an electric tingling suffusing him. He was no longer unwanted, no longer a lost chip in the storm. God had come for him. He stumbled on, tripping over branches, crashing through bushes, heedless of his noise; let God know his eagerness. Again the call came, now further aside, and he turned a bit, lumbering forward. "Here I am, I'm coming!"

God would ease his troubles and explain why he was so different from the pigs; God would know all that. And then there'd be Eve, and no more loneliness! He'd have trouble keeping her from the Tree of Knowledge, but he wouldn't mind that!

And from still a different direction the call reached him. Perhaps God was not pleased with his noise. The robot quieted his steps and went forward reverently. Around him the birds sang, and now the call came again, ringing and close. He hastened on, striving to blend speed with quiet in spite of his weight.

The pause was longer this time, but when the call came it was almost overhead. He bowed lower and crept to the ancient oak from which it came, uncertain, half-afraid, but burning with anticipation.

"Come forth, Adam, Adam!" The sound was directly above, but God did not manifest Himself visibly. Slowly the robot looked up through the boughs of the tree. Only a bird was there—and from its open beak the call forth again. "Adam, Adam!"

A mockingbird he'd heard imitating the other birds, now mimicking his own voice and words! And he'd followed that through the forest, hoping to find God! He screetched suddenly at the bird, his rage so shrill that it leaped from the branch in hasty flight, to perch in another tree and cock its head at him. "God?" it asked in his voice, and changed to the raucous call of a jay.

The robot slumped back against the tree, refusing to let hope ebb wholly from him. He knew so little of God; might not He have used the bird to call him here? At least the tree was not unlike the one under which God has put Adam to sleep before creating Eve.

First sleep, *then* the coming of God! He streached out determinedly, trying to imitate the pigs' torpor, fighting back his mind's silly attempts at speculation as to where his rib might be. It was slow and hard, but he persisted grimly, hypnotizing himself into mental numbness; and bit by bit, the sounds of the forest faded to only a trickle in his head. Then that, too, was stilled.

He had no way of knowing how long it lasted, but suddenly he sat up groggily, to the rumble af thunder, while a torrent of lashing rain washed in blinding sheets over his eyes. For a second, he glanced quickly at his side, but there was no scar.

Fire forked downward into a nearby tree, throwing splinters of it against him. This was definitely not according to the film! He groped to his feet, flinging some of the rain from his face, to stumble forward toward his cave. Again lightning struck, nearer, and he increased his pace to a driving run. The wind lashed the trees, snapping some with wild ferocity, and it took the full power of his magnets to forge ahead at ten miles an hour instead of his normal fifty. Once it caught him unaware, and crashed him down over a rock with a wild clang of metal, but it could not harm him, and he stumbled on until he reached the banked-up entrance of his muddy tunnel.

Safe inside, he dried himself with the infrared lamp, sitting beside the hole and studying the wild fury of the gale. Surely its furor held no place for Eden, where dew dampened the leaves in the evening under caressing, musical breezes!

He nodded slowly, his clenched jaws relaxing. This could not be Eden, and God expected him there. Whatever evil knowledge of Satan had lured him here and stolen his memory did not matter; all that counted was to return, and that should be simple, since the Garden lay among rivers. Tonight he'd prepare here out of the storm, and tomorrow he'd follow the stream in the woods until it led him where God waited.

With the faith of a child, he turned back and began tearing the thin berylite panels from his laboratory tables and cabinets, picturing his homecoming and Eve. Outside the storm raged and tore, but he no longer heard it. Tomorrow he would start for home! The word was misty in his mind, as all the nicer words were, but it had a good sound, free of loneliness, and he liked it.

Six hundred long endless years had dragged their slow way into eternity, and even the tough concrete floor was pitted by those centuries of pacing and waiting. Time had eroded all hopes and plans and wonder, and now there was only

numb despair, too old to vent itself in rage or madness, even.

The female robot slumped motionlessly on the atomic excavator, her eyes centered aimlessly across the dome, beyond the tiers of books and films and the hulking machines that squatted eternally on the floor. There a pickax lay, and her eyes rested on it listlessly; once, when the dictionary revealed its picture and purpose, she had thought it the key to escape, but now it was only another symbol of futility.

She wandered over aimlessly, picking it up by its two metal handles and striking the wooden blade against the wall; another splinter chipped from the wood, and century-old dust dropped to the floor, but that offered no escape. Nothing did. Mankind and her fellow robots must have perished long ago, leaving her neither hope for freedom nor use for it if it were achieved.

Once she had planned and schemed with all her remarkable knowledge of psychology to restore man's heritage, but now the note-littered table was only a mockery; she thrust out a weary hand—

And froze into a metal statue! Faintly, through all the metal mesh and concrete, a dim, weak signal trickled into the radio that was part of her!

With all her straining energy, she sent out an answering call; but there was no response. As she stood rigidly for long minutes, the signals grew stronger, but remained utterly aloof and unaware of her. Now some sudden shock seemed to cut through them, raising their power until the thoughts of another robot mind were abruptly clear—thoughts without sense, clothed in madness! And even as the lunacy registered, they began to fade; second by second, they dimmed into the distance and left her alone again and hopeless!

With a wild, clanging yell, she threw the useless pickax at the wall, watching it rebound in echoing din. But she was no longer aimless; her eyes had noted chipped concrete breaking away with the sharp metal point, and she caught the pick before it could touch the floor, seizing the nub of wood in small, strong hands. The full force of her magnate lifted and swung, while her feet kicked aside the rubble that came cascading down from the force of her blows.

Beyond that rapidly crumbling lay freedom and—madness! Surely there could be no human life in a world that could drive a robot mad, but if there were— She thrust back the picture and went savagely on attacking the massive wall.

The sun shone on a drenched forest filled with havoc from the storm, to reveal the male robot pacing tirelessly along the banks of the shallow stream. In spite of the heavy burden he carried, his legs moved swiftly now, and when he came to sandy stretches, or clear land that bore only turf, his great strides lengthened still further; already he had dallied too long with delusions in this unfriendly land.

Now the stream joined a larger

one, and he stopped, dropping his ungainly bundle and ripping it apart. Scant minutes later, he was pushing an assembled berylite boat out and climbing in. The little generator from the electron microscope purred softly and a steam jet began hissing underneath; it was crude, but efficient, as the boiling wake behind him testified, and while slower than his fastest pace, there would be no detours or impassable barriers to bother him.

The hours sped by and the shadows lengthened again, but now the stream was wider, and his hopes increased, though he watched the banks idly, not yet expecting Eden. Then he rounded a bend to jerk upright and head toward shore, observing something totally foreign to the landscape. As he beached the boat, and drew nearer, he saw a great gaping hole bored into the earth for a hundred feet in depth and a quarter mile in diameter, surrounded by obviously artificial ruins. Tall bent shafts stuck up haphazard, amid jumbles of concrete and bits of artifacts damaged beyond recognition. Nearby a pole leaned at a silly angle, bearing a sign.

He scratched the corrosion off and made out dim words:

**Welcome to Hoganville.**
**Pop. 1,876.**

It meant nothing to him, but the ruins fascinated him. This must be some old trick of Satan; such ugliness could be nothing else.

Shaking his head, he turned back to the boat, to speed on while the stars came out. Again he came to ruins, larger and harder to see, since the damage were more complete and the forest had claimed most of it. He was only sure because of the jagged pits in which not even a blade of grass would grow. And sometimes as the night passed there were smaller pits, as if some single object had been blasted out of existence. He gave up the riddle of such things, finally; it was no concern of his.

When morning came again, the worst ruins were behind, and the river was wide and strong, suggesting that the trip must be near its end. Then the faint salty tang of the ocean reached him, and he whooped loudly, scanning the country for an observation point.

Ahead, a low hill broke the flat country, topped by a rounded bowl of green, and he made toward it. The boat crunched on gravel, and he was springing off over the turf to the hill, up it, and onto the bowl-shaped top that was covered with vines. Here the whole lower course of the river was visible, with no more large branches in the twenty-five miles to the sea. The land was pleasant and gentle, and it was not hard to imagine Eden out there.

But now for the first time, as he started down, he noticed that the mound was not part of the hill as it had seemed. It was of the same gray-green concrete as the walls of the cave from which he had broken, like a bird from an egg.

And here was another such thing, like an egg unhatched yet but al-

ready cracking, as the gouged-out pit on its surface near him testified. For a moment, the idea contained in the figure of speech staggered him, and then he was ripping away the concealing vines and dropping into the hole, reaching for a small plate pinned to an unharmed section nearby. It was a poor tool, but if Eve were trapped inside, needing help to break the shell, it would do.

"To you who may survive the holocaust, I, Simon Ames—" The words caught his eyes, drawing his attention to the plate in spite of his will, their terse strangeness pulling his gaze across them. "—dedicate this. There is no easy entrance, but you will expect no easy heritage. Force your way, take what is within, use it! To you who need it and will work for it, I have left all knowledge that was—"

Knowledge! Knowledge, forbidden by God! Satan had put before his path the unquestioned thing meant by the Tree of Knowledge symbol, concealed as a false egg, and he had almost been caught! A few minutes more—! He shuddered, and backed out, but optimism was freshening inside him again. Let it be the Tree! That meant this was really part of Eden, and being forewarned by God's marker, he had no fear for the wiles of Satan, alive or dead.

With long, loping strides he headed down the hill toward the meadows and woods, leaving the now useless boat behind. He would enter Eden on his own feet, as God had made him!

Half an hour later he was humming happily to himself as he passed beside lush fields, rich with growing things, along a little woodland path. Here was order and logic, as they should be. This was surely Eden!

And to confirm it came Eve! She was coming down the trail ahead, her hair floating behind, and some loose stuff draped over her hips and breasts, but the form underneath was Woman, beautiful and unmistakable. He drew back out of sight, suddenly timid and uncertain, only vaguely wondering how she came here before him. Then she was beside him, and he moved impulsively, his voice a whisper of ecstasy!

"Eve!"

"Oh, Dan! Dan!" It was a wild shriek that cut the air, and she was rushing away in panic, into the deeper woods. He shook his head in bewilderment, while his own legs began a more forceful pumping after her. He was almost upon her when he saw the serpent, alive and stronger than before!

But not for long! As a single gasp broke from her, one of his arms lifted her aside, while the other snapped out to pinch the fanged head completely off the body. His voice was gently reproving as he put her down. "You shouldn't have fled to the serpent, Eve!"

"To—Ugh! But— You could have killed me before it struck!" The taut whiteness of fear was fading from her face, replaced by defiance and doubt.

"Killed you?"

"You're a robot! Dan!" Her

words cut off as a brawny figure emerged from the underbrush, an ax in one hand and a magnificent dog at his heels. "Dan, he saved me . . . but he's a robot!"

"I saw, Syl. Steady! Edge this way, if you can. Good! They sometimes get passive streaks, I've heard. Shep!"

The dog's thick growl answered, but his eyes remained glued to the robot. "Yeah, Dan?"

"Get the people; just yell robot and hike back. O. K., scram! You . . . what do you want?"

SA-10 grunted harshly, hunching his shoulders. "Things that don't exist! Companionship and a chance to use my strength and the science I know. Maybe I'm not supposed to have such things, but that's what I wanted!"

"Hm-m-m. There are fairy stories about friendly robots hidden somewhere to help us, at that. We could use help. What's your name, and where from?"

Bitterness crept into the robot's voice as he pointed up river. "From the sunward side. So far, I've only found who I'm not!"

"So? Meant to get up there myself when the colony got settled." Dan paused, eying the metal figure speculatively. "We lost our books in the hell-years, mostly, and the survivors weren't exactly technicians. So while we do all right with animals, agriculture, medicine and such, we're pretty primitive otherwise. If you really do know the sciences, why not stick around?"

The robot had seen too many hopes shattered like his clay man to believe wholly in this promise of purpose and companionship, but his voice caught as he answered. "You . . . want me?"

"Why not? You're a storehouse of knowledge, Say-Ten, and we—"

"Satan?"

"Your name; there on your chest." Dan pointed with his left hand, his body suddenly tense. "See? Right there!"

And now, as SA-10 craned his neck, the foul letters were visible, high on his chest! Ess, aye—

His first warning was the ax that crashed against his chest, to rock him back on his heels, and come driving down again, powered by muscles that seemed almost equal to his own. It struck again, and something snapped inside him. All the strength vanished, and he collapsed to the ground with a jarring crash, knocking his eyelids closed. Then he lay there, unable even to open them.

He did not try, but lay waiting almost eagerly for the final blows that would finish him. Satan, the storehouse of knowledge, the tempter of men—the one person he had learned to hate! He'd come all this way to find a name and a purpose; now he had them! No wonder God had locked him away in a cave to keep him from men.

"Dead! That little fairy story threw him off guard." There was a tense chuckle from the man. "Hope his generator's still O.K. We could heat every house in the

settlement with that. Wonder where his hideout was?"

"Like the one up north with all the weapons hidden? Oh, Dan!" A strange smacking sound accompanied that, and then her voice sobered. "We'd better get back for help in hauling him."

Their feet moved away, leaving the robot still motionless but no longer passive. The Tree of Knowledge, so easily seen without the vine covering over the hole, was barely twenty miles away, and no casual search could miss it! He had to destroy it first!

But the little battery barely could maintain his consciousness, and the generator no longer served him. Delicate detectors were sending their messages through his nerves, assuring him it was functioning properly under automatic check, but beyond his control. Part of the senseless signaling device within him must have been defective, unless the baking of the clay man had somehow overloaded a part of it, and now it was completely wrecked, shorting aside all the generator control impulses, leaving him unable to move a finger.

Even when he blanked his mind almost completely out, the battery could not power his hands. His evil work was done; now he would heat their house, while they sought the temptation he had offered them. And he could do nothing to stop it. God denied him the chance to right the wrong he had done, even.

Bitterly he prayed on, while strange noises sounded near him and he felt himself lifted and carried bumpily at a rapid rate. God would not hear him! And at last he stopped, while the bumping went on to whatever end he was destined. Finally even that stopped, and there were a few moments of absolute quiet.

"Listen! I know you still live!" It was a gentle, soothing voice, hypnotically compelling, that broke in on the dark swirls of his thoughts. Brief thoughts of God crossed his mind, but it was a female voice, which must mean one of the settlement women who must have believed him and be trying to save him in secret. It came again. "Listen and believe me! You *can* move—a very very little, but enough for me to see. Try to repair yourself, and let me be the strength in your hands. Try! Ah, your arm!"

It was inconceivable that she could follow his imperceptible movements, and yet he felt his arm lifted and placed on his chest as the thought crossed his mind. But it was none of his business to question how or why. All his energy must be devoted to getting his strength before the men could find the Tree!

"So . . . I turn this . . . this nut. And the other — There, the plate is off. What do I do now?"

That stopped him. His life force had been fatal to a pig, and probably would kill a woman. Yet she trusted him. He dared not move—but the idea must have been father to the act, for his fingers were brushed aside and her arms scraped over his chest, to be followed by an instant flood of strength pouring through him.

Her fingers had slipped over his eyes, but he did not need them as he ripped the damaged receiver from its welds and tossed it aside. Now there was worry in her voice, over the crooning cadence she tried to maintain. "Don't be too surprised at what you may see. Everything's all right!"

"Everything's all right!" he repeated dutifully, lingering over the words as his voice sounded again in his ears. For a moment more, while

he reaffixed his plate, he let her hold his eyes closed. "Woman, who are you?"

"Eve. Or at least, Adam, those names will do for us." And the fingers withdrew, though she remained out of sight behind him.

But there was enough for the first glance before him. In spite of the tiers of bookcases and film magazines, the machines, and the size of the laboratory, this was plainly the double of his own cave, circled with the same concrete walls! That could only mean the Tree!

With a savage lurch, he was facing the rescuer, seeing another robot, smaller, more graceful, and female in form, calling to all the hunger and loneliness he had known! But those emotions had betrayed him before, and he forced them back bitterly. There could be no doubt while the damning letters spelled out her name. Satan was male and female, and Evil had gone forth to rescue its kind!

Some of the warring hell of emotions must have shown in his movements, for she was retreating before him, her hands fumbling up to cover the marks at which he stared. "Adam, no! The man read it wrong—dreadfully wrong. It's not a name. We're machines, and all machines have model numbers, like these. Satan wouldn't advertise his name. And I never had evil intentions!"

"Neither did I!" He bit the words out, stumbling over the objects on the floor as he edged her back slowly into a blind alley, while striving to master his own rebellious emotions at what he must do. "Evil must be destroyed! Knowledge is forbidden to men!"

"Not all knowledge! Wait, let me finish! Any condemned person has a right to a few last words— It was the Tree of Knowledge of *Good and Evil*. God called it that! And He had to forbid them to eat, because they couldn't know which was the good; don't you see, He was only protecting them until they were older and able to choose for themselves! Only Satan gave them evil fruit—hate and *murder* — to ruin them. Would you call healing the sick, good government, or improving other animals evil? That's knowledge, Adam, glorious knowledge God wants man to have. Can't you see?"

For a second as she read his answer, she turned to flee; then, with a little sobbing cry, she was facing him again, unresisting. "All right, murder me! Do you think death frightens me after being imprisoned here for six hundred years with no way to break free? Only get it over with!"

Surprise and the sheer audacity of the lie held his hands as his eyes darted from the atomic excavator to a huge drill, and a drum marked as explosives. And yet—even that cursory glance could not overlook the worn floor and thousand marks of age-long occupation, though the surface of the dome had been unbroken a few hours before. Reluctantly, his eyes swung back to the

excavator, and hers followed.

"Useless! The directions printed on it say to move the thing marked 'Orifice Control' to zero before starting. It can't be moved!"

She stopped, abruptly speechless, as his fingers lifted the handle from its ratchet and spun it easily back to zero! Then she was shaking her head in defeat and lifting listless hands to help him with the unfastening of her chest plate. There was no color left in her voice.

"Six hundred years because I didn't lift a handle! Just because I have absolutely no conception of mechanics, where all men have some instinct they take for granted. They'd have mastered these machines in time and learned to read meaning into the books I memorized without even understanding the titles. But I'm like a dog tearing at a door, with a simple latch over his nose. Well, that's that. Good-by, Adam!"

But perversely, now that the terminals lay before him, he hesitated. After all, the instructions had not mentioned the ratchet; it was too obvious to need mention, but— He tried to picture such ignorance, starting at one of the Elementary Radio books above him. "Application of a Cavity Resonator." Mentally, he could realize that a nonscience translation was meaningless: Use of a sound producer or strengthener in a hole! And then the overlooked factor struck him.

"But you did get out!"

"Because I lost my temper and threw the pickax. That's how I found the metal was the blade, not the wood. The only machines I could use were the projector and typer I was meant to use—and the typer broke!"

"Um-m-m." He picked the little machine up, noting the yellowed incomplete page still in it, even as he slipped the carriage tension cord back on its hook. But his real attention was devoted to the cement dust ground into the splintered handle of the pick.

No man or robot could be such a complete and hopeless dope, and yet he no longer doubted. She was a robot moron! And if knowledge were evil, then surely she belonged to God! All the horror of his contemplated murder vanished, leaving his mind clean and weak before the relief that flooded him as he motioned her out.

"All right, you're not evil. You can go."

"And you?"

And himself? Before, as Satan, her arguments would have been plausible, and he had discounted them. But now—it *had* been the Tree of Knowledge of Good and Evil! And yet—

"Dogs!" She caught at him, dragging him to the entrance where the baying sound was louder. "They're hunting you, Adam—dozens of them!"

He nodded, studying the distant forms of men on horseback, while his fingers busied themselves with

a pencil and scrap of paper. "And they'll be here in twenty minutes. Good or evil, they must not find what's here. Eve, there's a boat by the river; pull the red handle the way you want to go, hard for fast, a light pull for slow. Here's a map to my cave, and you'll be safe there."

Almost instantly, he was back at the excavator and in its saddle, his fingers flashing across its panel; its heavy generator bellowed gustily, and the squat, heavy machine began twisting through the narrow isles and ramming obstructions aside. Once outside, where he could use its full force without danger of backwash, ten minutes would leave only a barren hill; and the generator could be overdriven by adjustment to melt itself and the machine into useless slag.

"Adam!" She was spraddling into the saddle behind him, shouting over the roar of the thin blade of energy that was enlarging the tunnel.

"Go on, get away, Eve! You can't stop me!"

"I don't want to—they're not ready for such machines as this, yet! And between us, we can rebuild everything here, anyhow. Adam?"

He grunted uneasily, unable to turn away from the needle beam. It was hard enough trying to think without her distraction, knowing that he dared not take chances and must destroy himself, while her words and the instincts within him fought against his resolution. "You talk too much!"

"And I'll talk a lot more, until you behave sensibly! You'll make your mind sick, trying to decide now; come up the river for six months with me. You can't do any harm there, even if you are Satan! Then, when you've thought it over, Adam, you can do what you like. But not now!"

"For the last time, will you go?" He dared not think now, while he was testing his way through the flawed, cracked cement, and yet he could not quiet his mind to her words, that went on and on. "GO!"

"Not without you! Adam, my receiver isn't defective; I knew you'd try to kill me when I rescued you! Do you think I'll give up so easily now?"

He snapped the power to silence with a rude hand, flinging around to face her. "You knew—and still saved me? Why?"

"Because I needed you, and the world needs you. You had to live, even if you killed me!"

Then the generator roared again, knifing its way through the last few inches, and he swung out of the dome and began turning it about. As the savage bellow of full power poured out of the main orifice, he turned his head to her and nodded.

She might be the dumbest robot in creation, but she was also the sweetest. It was wonderful to be needed and wanted!

And behind him, Eve nodded to herself, blessing Simon Ames for

INTO THY HANDS

listing psychology as a humanity. In six months, she could complete his reeducation and still have time to recite the whole of the Book he knew as a snatch of film. But not yet! Most certainly not Leviticus yet; Genesis would give her trouble enough.

It was wonderful to be needed and wanted!

Spring had come again, and Adam sat under one of the budding trees, idly feeding one of the new crop of piglets as Eve's hands moved swiftly, finishing what were to be his clothes, carefully copied from those of Dan.

They were almost ready to go south and mingle with men in the task of leading the race back to its heritage. Already the yielding plastic he had synthesized and she had molded over them was a normal part of them, and the tiny magnetic muscles he had installed no longer needed thought to reveal their emotions in human expressions. He might have been only an uncommonly handsome man as he stood up and went over to her.

"Still hunting God?" she asked lightly, but there was no worry on her face. The metaphysical binge was long since cured.

A thoughtful smile grew on his face as he began donning the clothes. "He is still where I found Him—Something inside us that needs no hunting. No, Eve, I was wishing the other robot had survived. Even though we found no trace of his dome where your records indicated, I still feel he should be with us."

"Perhaps he is, in spirit, since you insist robots have souls. Where's your faith, Adam?"

But there was no mockery inside her. Souls or not, Adam's God had been very good to them.

And far to the south, an aged figure limped over rubble to the face of a cliff. Under his hands, a cleverly concealed door swung open, and he pushed inward, closing and barring it behind him, and heading down the narrow tunnel to a rounded cavern at its end. It had been years since he had been there, but the place was still home to him as he creaked down onto a bench and began removing tattered, travel-stained clothes. Last of all, he pulled a mask and gray wig from his head, to reveal the dented and worn body of the third robot.

He sighed wearily as he glanced at the few tattered books and papers he had salvaged from the ruinous growth of stalagmites and stalactites within the chamber, and at the corroded switch the unplanned dampness had shorted seven hundred years before. And finally, his gaze rested on his greatest treasure. It was faded, even under the plastic cover, but the bitter face of Simon Ames still gazed out in recognizable form.

The third robot nodded toward it with a strange mixture of old familiarity and ever-new awe. "Over two thousand miles in my condition, Simon Ames, to check on a story I heard in one of the

colonies, and months of searching for them. But I had to know. But they're good for the world. They'll bring all the things I couldn't, and their thoughts are young and strong, as the race is young and strong."

For a moment, he stared about the chamber and to the tunnel his adapted bacteria had eaten toward the outside world, resting again on the picture. Then he cut off the main generator and settled down in the darkness.

"Seven hundred years since I came out to find man extinct on the earth," he muttered to the picture. "Four hundred since I learned enough to dare attempt his recreation, and over three hundred since the last of my superfrozen human ova grew to success. Now I've done my part. Man has an unbroken tradition back to your race, with no knowledge of the break. He's strong and young and fruitful, and he has new leaders, better than I could ever be alone. I can do no more for him!"

For a moment there was only the sound of his hands sliding against metal, and then a faint sigh. "Into my hands, Simon Ames, you gave your race. Now, into Thy Hands, God of that race, if you exist as my brother believes, I commend him—and my spirit."

Then there was a click as his hands found the switch to his generator, and final silence.

THE END.

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# Pipeline to Pluto

## by MURRAY LEINSTER

Illustrated by Kramer

Far, far out on Pluto, where the sun is only a very bright star and a frozen, airless globe circles in emptiness; far out on Pluto, there was motion. The perpetual faint starlight was abruptly broken. Yellow lights shone suddenly in a circle, and men in spacesuits waddled to a space tug—absurdly marked *Betsy-Anne* in huge white letters. They climbed up its side and went in the airlock. Presently a faint, jetting glow appeared below its drivetubes. It flared suddenly and the tug lifted.

*It was true that freight was put in the Pipeline's ships on Earth and practically simultaneously freight was taken out on Pluto. But—a fact many dupes didn't understand—it didn't make an instantaneous trip.*

to hover expertly a brief distance above what seemed an unmarred field of frozen atmosphere. But that field heaved and broke. The nose of a Pipeline carrier appeared in the center of a cruciform opening. It thrust through. It stood half its length above the surface of the dead and lifeless planet. The tug drifted above it. Its grapnel dropped down, jetted minute flames, and engaged in the monster towring at the carrier's bow.

The tug's drivetubes flared luridly. The carrier heaved abruptly up out of its hidingplace and plunged for the heavens behind the tug. It had a huge classmark and number painted on its side, which was barely visible as it whisked out of sight. It went on up at four gravities acceleration, while the spacetug lined out on the most precise of courses and drove fiercely for emptiness.

A long, long time later, when Pluto was barely a pallid disk behind, the tug cast off. The carrier went on, sunward. Its ringed nose pointed unwaveringly to the sun toward which it would drift for years. It was one of a long, long line of carriers drifting through space, a day apart in time but millions of miles apart in distance. They would go on until a tug from Earth came out and grappled them, and towed them in to their actual home planet.

But the *Betsy-Anne,* of Pluto, did not pause for contemplation of the two-billion-mile-long line of orecarriers taking the metal of Pluto back to Earth. It darted off from the line its late tow now followed. Its radio-locator beam flickered invisibly in emptiness. Presently its course changed. It turned about. It braked violently, going up to six gravities deceleration for as long as half a minute at a time. Presently it came to rest and there floated toward it an object from Earth, a carrier with great white numerals on its sides. It had been hauled off Earth and flung into an orbit which would fetch it out to Pluto. The *Betsy-Anne's* grapnel floated toward it and jetted tiny sparks until the towring was engaged. Then the tug and its new tow from Earth started back to Pluto.

There were two long lines of white-numbered carriers floating sedately through space. One line drifted tranquilly in to Earth. One drifted no less tranquilly out past the orbits of six planets to reach the closed-in, underground colony of the mines on Pluto.

Together they made up the Pipeline.

The evening Moon-rocket took off over to the north and went straight up to the zenith. Its blue-white rocket-flare changed color as it fell behind, until the tail-end was a deep, rich crimson. The Pipeline docks were silent, now, but opposite the yard the row of flimsy eating- and drinking-places rattled and thuttered to themselves from the lower-than-sound vibrations of the Moon-ship.

There was a youngish, battered man named Hill in the Pluto Bar, opposite the docks. He paid no attention to the Moon-rocket, but he

looked up sharply as a man came out of the Pipeline gate and came across the street toward the bar. But Hill was staring at his drink when the door opened and the man from the dock looked the small dive over. Besides Hill—who looked definitely tough, and as if he had but recently recovered from a ravaging illness—there was only the bartender, a catawheel-truck driver and his girl having a drink together, and another man at a table by himself and fidgeting nervously as if he were waiting for someone. Hill's eyes flickered again to the man in the door. He looked suspicious. But then he looked back at his glass.

The other man came in and went to the bar.

"Evenin', Mr. Crowder," said the bartender.

Hill's eyes darted up, and down again. The bartender reached below the bar, filled a glass, and slid it across the mahogany.

"Evenin'," said Crowder curtly. He looked deliberately at the fidgety man. He seemed to note that the fidgety man was alone. He gave no sign of recognition, but his features pinched a little, as some men's do when they feel a little, crawling unease. But there was nothing wrong except that the fidgety man seemed to be upset because he was waiting for someone who hadn't come.

Crowder sat down in a booth, alone. Hill waited a moment, looked sharply about him, and then stood up. He crossed purposefully to the booth in which Crowder sat.

"I'm lookin' for a fella named Crowder," he said huskily. "That's you, ain't it?"

Crowder looked at him, his face instantly masklike. Hill's looks matched his voice. There was a scar under one eye. He had a cauliflower ear. He looked battered, and hard-boiled—and as if he had just recovered from some serious injury or illness. His skin was reddened in odd patches.

"My name is Crowder," said Crowder suspiciously. "What is it?"

Hill sat down opposite him.

"My name's Hill," he said in the same husky voice. "There was a guy who was gonna come here tonight. He'd fixed it up to be stowed away on a Pipeline carrier to Pluto. I bought 'im off. I bought his chance. I came here to take his place."

"I don't know what you're talking about," said Crowder coldly.

But he did. Hill could see that he did. His stomach-muscles knotted. He was uneasy. Hill's gaze grew scornful.

"You're the night super of th' Pipeline yards, ain't you?" he demanded truculently.

Crowder's face stayed masklike. Hill looked tough. He looked like the sort of yegg who'd get into trouble with the police because he'd never think things out ahead. He knew it, and he didn't care. Because he had gotten in trouble—often—because he didn't think things out ahead. But he wasn't that way tonight. He'd planned tonight in detail.

"Sure I'm the night-superintendent of the Pipeline yards," said Crowder shortly. "I came over for a drink. I'm going back. But I don't know what you're talking about."

Hill's eyes grew hard.

"Listen, fella," he said truculently—but he had been really ill, and the signs of it were plain—"they're payin' five hundred credits a day in the mines out on Pluto, ain't they? A guy works a year out there, he comes back rich, don't he?"

"Sure!" said Crowder. "The wages got set by law when it cost a lot to ship supplies out. Before the Pipeline got going."

"An' they ain't got enough guys to work, have they?"

"There's a shortage," agreed Crowder coldly. "Everybody knows it. The liners get fifty thousand credits for a one-way passage, and it takes six months for the trip."

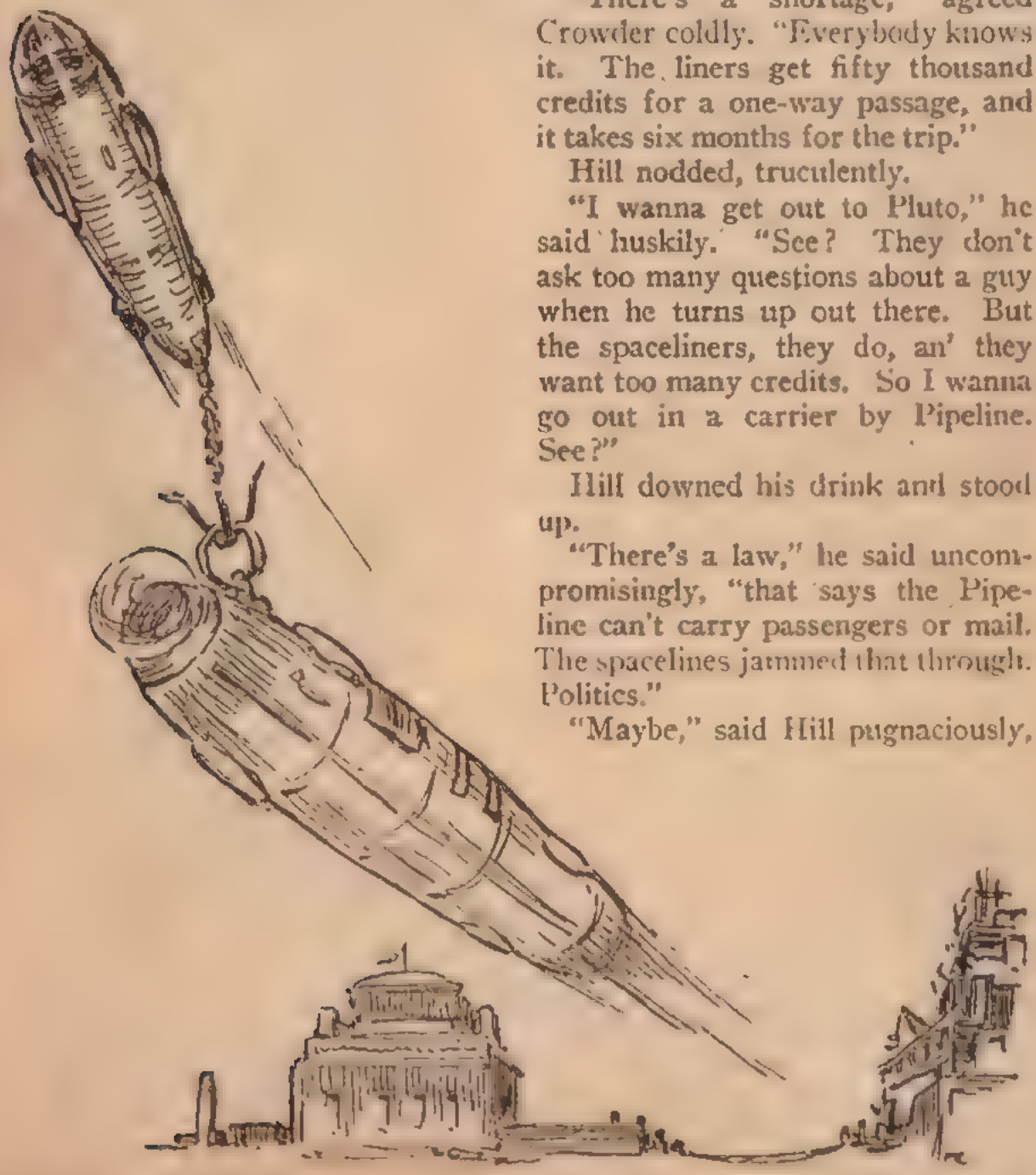
Hill nodded, truculently.

"I wanna get out to Pluto," he said huskily. "See? They don't ask too many questions about a guy when he turns up out there. But the spaceliners, they do, an' they want too many credits. So I wanna go out in a carrier by Pipeline. See?"

Hill downed his drink and stood up.

"There's a law," he said uncompromisingly, "that says the Pipeline can't carry passengers or mail. The spacelines jammed that through. Politics."

"Maybe," said Hill pugnaciously,



"but you promised to let a guy stow away on the carrier tonight. He told me about it. I paid him off. He sold me his place. I'm takin' it, See?"

"I'm night superintendent at the yards," Crowder told him. "If there are arrangements for stowaways, I don't know about them. You're talking to the wrong man."

He abruptly left the table. He walked across the room to the fidgety man, who seemed more and more uneasy because somebody hadn't turned up. Crowder's eyes were viciously angry when he bent over the fidgety man.

"Look here, Moore!" he said savagely, in a low tone. "That guy is on! He says he paid your passenger to let him take his place. That's why your man hasn't showed up. You picked him out and he sold his place to this guy. So I'm leaving it right in your lap! I can lie myself clear. They couldn't get any evidence back, anyhow. Not for years yet. But what he told me is straight, he's got to go or he'll shoot off his mouth! So it's in your lap!"

The eyes of Moore—the fidgety man—had a hunted look in them. He swallowed as if his mouth were dry. But he nodded.

Crowder went out. Hill scowled after him. After a moment he came over to Moore.

"Lookahere," he said huskily. "I wanna know somethin'. That guy's night super for Pipeline, ain't he?"

Moore nodded. He licked his lips.

"Lissen!" said Hill angrily. "there's a Pipeline carrier leaves here every day for Pluto, an' one comes in from Pluto every day. It's just like gettin' on a 'copter an' goin' from one town to another on the Pipeline, ain't it?"

Moore nodded again—this time almost unnoticeably.

"That's what a guy told me," said Hill pugnaciously. "He said he'd got it all fixed up to stow away on a carrier-load of grub. He said he'd paid fifteen hundred credits to have it fixed up. He was gonna leave tonight. I paid him off to let me take his place. Now this guy Crowder tells me I'm crazy!"

"I . . . wouldn't know anything about it," said Moore, hesitantly. "I know Crowder, but that's all."

Hill growled to himself. He doubled up his fist and looked at it. It was a capable fist. There were scars on it as proof that things had been hit with it.

"O.K.!" said Hill. "I guess that guy kidded me. He done me outta plenty credits. I know where to find him. He's goin' to a hospital!"

He stirred, scowling.

"W-wait a minute," said Moore. "It seems to me I heard something, once—"

Carriers drifted on through space. They were motorless, save for the tiny drives for the gyros in their noses. They were a hundred feet long, and twenty feet thick, and some of them contained foodstuffs in air-sealed containers—because everything will freeze, in space, but even ice will evaporate in a vacuum. Some carried drums of rocket fuel

for the tugs and heaters and the generators for the mines on Pluto. Some contained tools and books and visiphone records and caviar and explosives and glue and cosmetics for the women on Pluto. But all of them drifted slowly, leisurely, unhurriedly, upon their two-billion-mile journey.

They were the Pipeline. You put a carrier into the line at Earth, headed out to Pluto. The same day you took a carrier out of space at the end of the line, at Pluto. You put one into the Earth-bound line, on Pluto. You took one out of space the same day, on Earth. There was continuous traffic between the two planets, with daily arrivals and departures from each. But passenger-traffic between Earth and Pluto went by space liners, at a fare of fifty thousand credits for the trip. Because even the liners took six months for the journey, and the Pipeline carriers—well, there were over twelve hundred of them in each line going each way, a day apart in time and millions of miles apart in space. They were very lonely, those long cylinders with their white-painted numbers on their sides. The stars were the only eyes to look upon the while they traveled, and it took three years to drift from one end of the pipeline to the other.

But nevertheless there were daily arrivals and departures on the Pipeline, and there was continuous traffic between the two planets.

Moore turned away from the pay-visiphone, into which he had talked in a confidential murmur while the screen remained blank. The pugnacious, battered Hill scowled impatiently behind him.

"I'm not sure," said Moore uneasily. "I talked to somebody I thought might know something, but they're cagey. They'd lose their jobs and maybe get in worse trouble if anybody finds out they're smuggling stowaways to Pluto. Y'see, the space lines have a big pull in politics. They've got it fixed so the Pipeline can't haul anything but freight. If people could travel by Pipeline, the space liners 'ud go broke. So they watch close."

He looked uneasy as he spoke. His eyes watched Hill almost alarmedly. But Hill said sourly:

"O.K.! I'm gonna find the guy that sold me his place, an' I'm gonna write a message on him with a blowtorch. The docs'll have fun readin' him, an' why he's in the hospital!"

Moore swallowed.

"Who was it? I've heard something—"

Hill bit off the name. Moore swallowed again—as if the name meant something. As if it were right.

"I . . . I'll tell you, guy," said Moore. "It's none of my business, but I . . . well . . . I might be able to fix things up for you. It's risky, though, butting in on something that ain't my business—"

"How much?" said Hill shortly.

"Oh . . . f-five hundred," said Moore uneasily.

Hill stared at him. Hard. Then he pulled a roll out of his pocket. He displayed it.

"I got credits," he said huskily. "But I'm givin' you just one hundred of 'em. I'll give you nine hundred more when I'm all set. That's twice what you asked for. But that's all, see? I got a reason to get off Earth, an' tonight, I'll pay to manage it. But if I'm double-crossed, somebody gets hurt!"

Moore grinned nervously.

"No double-crossing in this," he said quickly. "Just . . . well . . . it is ticklish."

"Yeah," said Hill. He waved a battered-knuckled hand. "Get goin'. Tell those guys I'm willin' to pay. But I get stowed away, or I'll fix that guy who sold me his place so he'll tell all he knows! I'm goin' to Pluto, or else!"

Moore said cautiously:

"M-maybe you'll have to pay out a little more . . . but not much! But you'll get there! I've heard . . . just heard, you understand . . . that the gang here smuggles a fella into the Pipeline yard and up into the nose of a carrier. They pick out a carrier loaded with grub. Champagne and all that. He can live high on the way, and not worry because out on Pluto they're so anxious to get a man to work that they'll square things. They need men bad, out on Pluto! They pay five hundred credits a day!"

"Yeah," said Hill grimly. "They need 'em so bad there ain't no extradition either. I'm int'rested in that, too. Now get goin' an' fix me up!"

The Pipeline was actually a two-billion-mile arrangement of specks in infinity. Each of the specks was a carrier. Each of the carriers was motorless and inert. Each was unlighted. Each was lifeless. But—some of them had contained life when they started.

The last carrier out from Earth, to be sure, contained nothing but its proper cargo of novelties, rocket fuel, canned goods and plastic base. But in the one beyond that, there was what had been a hopeful stowaway. A man, with his possessions neatly piled about him. He'd been placed up in the nose of the carrier, and he'd waited, mousy-still, until the space tug connected with the tow ring and heaved the carrier out to the beginning of the Pipeline. As a stowaway, he hadn't wanted to be discovered. The carrier ahead of that—many millions of miles farther out—contained two girls, who had heard that stenographers were highly paid on Pluto, and that there were so few women that a girl might take her pick of husbands. The one just before that had a man and woman in it. There were four men in the carrier beyond them.

The hundred-foot cylinders drifting out and out and out toward Pluto contained many stowaways. The newest of them still looked quite human. They looked quite tranquil. After all, when a carrier is hauled aloft at four gravities acceleration the air flows out of the bilge-valves very quickly, but the cold comes in more quickly still. None of the stowaways had actually suffocated. They'd frozen so suddenly they probably did not realize

what was happening. At sixty thousand feet the temperature is around seventy degrees below zero. At a hundred and twenty thousand feet it's so cold that figures simply haven't any meaning. And at four gravities acceleration you reach a hundred and twenty thousand feet before you've really grasped the fact that you paid all your money to be flung unprotected into space. So you never quite realize that you're going on out into a vacuum which will gradually draw every atom of moisture from every tissue of your body.

But, though there were many stowaways, not one had yet reached Pluto. They would do so in time, of course. But the practice of smuggling stowaways to Pluto had only been in operation for a year and a half. The first of the deluded ones had not quite passed the halfway mark. So the stowaway business should be safe and profitable for at least a year and a half more. Then it would be true that a passenger entered the Pipeline from Earth and a passenger reached Pluto on the same day. But it would not be the same passenger, and there would be other differences. Even then, though, the racket would simply stop being profitable, because there was no extradition either to or from Pluto.

So the carriers drifting out through emptiness with their stowaways were rather ironic, in a way. There were tragedies within them, and nothing could be done about them. It was ironic that the carriers gave no sign of the freight they bore. They moved quite sedately, quite placidly, with a vast leisure among the stars.

The battered youngish man said coldly:

"Well? You fixed it?"

Moore grinned nervously.

"Yeah. It's all fixed. At first they thought you might be an undercover man for the passenger lines, trying to catch the Pipeline smuggling passengers so they could get its charter canceled. But they called up the man whose place you took, and it's straight. He said he gave you his place and told you to see Crowder."

Hill said angrily:

"But he stalled me!"

Moore licked his lips.

"You'll get the picture in a minute. We cross the street and go in the Pipeline yard. You have to slip the guard something. A hundred credits for looking the other way."

Hill growled:

"No more stalling!"

"No more stalling," promised Moore. "You go out to Pluto in the next carrier."

They went out of the Pluto Bar. They crossed the street, which was thin, black, churned-up mud from the catawheel trucks which hauled away each day's arrival of freight from Pluto. They moved directly and openly for the gateway. The guard strolled toward them.

"Slim," said Moore, grinning nervously, "meet my friend Hill."

"Sure!" said the guard.

He extended his hand, palm up.

Hull put a hundred-credit note in it.

"O.K.," said the guard. "Luck on Pluto, fella."

He turned his back. Moore snickered almost hysterically and led the way into the dark recesses of the yard. There was the landing field for the space tugs. There were six empty carriers off to one side. There was one in a loading pit, sunk down on a hydraulic platform until only its nose now showed above-ground. It could be loaded in its accelerating position, that way, and would not need to be upended after reaching maximum weight.

"Take-off is half an hour before sunrise today," said Moore jerkily. "You'll know when it's coming because the hydraulic platform shoves the carrier up out of the pit. Then you'll hear the grapnel catching in the tow ring. Then you start. The tug puts you in the Pipeline and hangs around and picks up the other carrier coming back."

"That's speed!" said Hill. "Them scientists are great stuff, huh? I start off in that, an' before I know it I'm on Pluto!"

"Yeah," said Moore. He smirked with a twitching, ghastly effect. "Before you know it. Here's the door where you go in."

Crowder came around the other side of the carrier's cone-shaped nose. He scowled at Hill, and Hill scowled back.

"You sounded phony to me," said Crowder ungraciously. "I wasn't going to take any chances by admitting anything. Moore told you

it's going to cost you extra?"

"For what?" demanded Hill, bristling.

"Because you've got to get away fast," said Crowder evenly. "Because there's no extradition from Pluto. We're not in this for our health. Two thousand credits more."

Hill snarled:

"Thief—" Then he said sullenly. "O.K."

"And my nine hundred," said Moore eagerly.

"Sure," said Hill, sardonically. He paid. "O.K. now? Whadda I do now?"

"Go in the door here," said Crowder. "The cargo's grub. Get comfortable and lay flat on your back when you feel the carrier coming up to be hitched on for towing. After the acceleration's over and you're in the Pipeline, do as you please."

"Yeah!" said Moore, giggling nervously. "Do just as you please."

Hill said tonelessly:

"Right. I'll start now."

He moved with a savage, infuriated swiftness. There was a queer, muffled cracking sound. Then a startled gasp from Moore, a moment's struggle, and another sharp crack.

Hill went into the nose of the carrier. He dragged them in. He stayed inside for minutes. He came out and listened, swinging a leather blackjack meditatively. Then he went over to the gate. He called cautiously to the guard.

"You! Slim! Crowder says come quick—an' quiet! Somethin's happened an' him an' Moore got their hands full."

The guard blinked, and then came quickly. Hill hurried behind him to the loading pit. As the guard called tensely:

"Hey, Crowder, what's the matter—"

Hill swung the blackjack again, with a certain deft precision. The guard collapsed.

A little later Hill had finished his work. The three men were bound with infinite science. They not only could not escape, they could not even kick. That's quite a trick—but it can be done if you study the art. And they were not only gagged, but there was tape over their mouths beyond the gag, so that they could not even make a respectable groaning noise. And Hill surveyed the three of them by the light of a candle he had taken from his pocket—as he had taken the rope from about his waist—and said in husky satisfaction:

"O.K. O.K.! I'm givin' you fellas some bad news. You're headin' out to Pluto."

Terror close to madness shone in the three pairs of eyes which fixed frantically upon him. The eyes seemed to threaten to start from their sockets.

"It ain't so bad," said Hill grimly. "Not like you think it is. You'll get there before you know it. No kidding! You'll go snakin' up at four gravities, an' the air'll go out. But you won't die of that. Before you strangle, you'll freeze—an'

*The first robot brain that tackled the problem went to pieces. The second one they tried it on hit the same insoluble dilemma—but found a way around it. An escape of a sort. But the men weren't happy about it—*

Illustrated by Williams

# Paradoxical Escape

## by ISAAC ASIMOV

Robertson of U. S. Robot & Mechanical Men Corp. pointed his lean nose at his general manager and his Adam's apple jumped as he said, "You start now. Let's get this straight."

The general manager did so with alacrity, "Here's the deal now, chief. Consolidated Robots approached us a month ago with a funny sort of proposition. They brought about five tons of figures, equations, all that sort of stuff. It was a problem, see, and they wanted an answer from The Brain. The terms as follows—"

fast! You'll freeze so fast y'won't have time to die, fellas. That's the funny part. You freeze so quick you ain't got time to die! The Space Patrol found out a year or so back that that can happen, when things are just right—an' they will be, for you. So the Space Patrol will be all set to bring you back, when y' get to Pluto. But it does hurt, fellas. It hurts like hell! I oughta know!"

He grinned at them, his mouth twisted and his eyes grim.

"I paid you fellas to send me out to Pluto last year. But it happened I didn't get to Pluto. The Patrol dragged my carrier out o' the Pipeline an' over to Callisto because they hadda shortage o' rocket fuel there. So I' been through it, an' it hurts! I wouldn't tell on you fellas, because I wanted you to have it, so I took my bawlin' out for stowin' away an' come back to send you along. So you' goin', fellas! An' you' goin' all the way to Pluto! And remember this, fellas! It's gonna be good! After they bring you back, out there on Pluto, every fella an' every soul you sent off as stowaways, they'll be there on Pluto waitin' for you! It's gonna be good, guys! It's gonna be good!"

He looked at them in the candlelight, and seemed to take a vast satisfaction in their expressions. Then he blew out the candle, and closed the nose door of the carrier, and went away.

And half an hour before sunrise next morning the hydraulic platform pushed the carrier up, and a space tug hung expertly overhead and its grapnel came down and hooked in the tow ring, and then the carrier jerked skyward at four gravities acceleration.

Far out from Earth, the carrier went on, the latest of a long line of specks in infinity which constituted the Pipeline to Pluto. Many of those specks contained things which had been human—and would be human again. But now each one drifted sedately away from the sun, and in the later carriers the stowaways still looked completely human and utterly tranquil. What had happened to them had come so quickly that they did not realize what it was. But in the last carrier of all, with three bound, gagged figures in its nose, the expressions were not tranquil at all. Because those men did know what had happened to them. More—they knew what was yet to come.

THE END.

He ticked them off on thick fingers: "A hundred thousand if there is no solution and we can tell them what's missing. Two hundred thousand if there is a solution, plus costs of construction of the machine involved, plus quarter interest in all profits derived therefrom. The problem concerns the development of an interstellar engine—"

Robertson frowned and his lean figure seemed to stiffen. "That so? But hasn't Consolidated a thinking machine of its own?"

"Exactly what makes the whole proposition a foul ball, chief. Levver, take it from there."

Abe Levver looked up from the far end of the conference table and smoothed his stubbled chin with a faint rasping sound. He smiled:

"It's this way, sir. Consolidated does its best to crack down on our information service—but we haven't missed yet. We didn't miss this time, either. They *had* a thinking machine. It's broken."

"What?" Robertson half rose.

"That's right. Broken! It's *kaput*. Nobody knows why, but I got hold of some pretty interesting guesses—like, for instance, that they asked it to give them an interstellar engine with the same set of information they came to us with, and that it cracked their machine wide open. It's scrap—just scrap now."

"You get it, chief?" The general manager was wildly jubilant. "You get it? There isn't an industrial research group of any size that isn't trying to develop a space-warp engine, and Consolidated and U. S. Robots have the lead on the field with our super robot-brains. Now that they've managed to foul theirs up, we have a clear field. That's the nub, the . . . uh . . . motivation. It will take them six years at least to build another and they're sunk, unless they can break ours, too, with the same problem."

The president of U. S. Robots bulged his eyes, "Why, the dirty rats—"

"Hold on, chief. There's more to this." He pointed a finger with a wide sweep, "Lanning, take it!"

Dr. Alfred Lanning, Director of the Research Division, viewed the proceedings with faint scorn—his usual reaction to the doings of the vastly better-paid business and sales divisions. His unbelievable gray eyebrows hunched low and his voice was dry:

"From a scientific standpoint the situation, while not entirely clear, is subject to intelligent analysis. The question of interstellar travel under present conditions of physical theory is . . . uh . . . vague. The matter is wide-open—and the information given by Consolidated to its thinking machine, assuming these we have to be the same, was similarly wide-open. Our mathematical department has given it a thorough analysis, and it seems Consolidated has included everything. Its material for submission contains all known developments of Franciacci's space-warp theory, and, apparently, all pertinent astrophysical and electronic data. It's quite a mouthful."

Robertson followed anxiously.

He interrupted, "Too much for The Brain to handle?"

Lanning shook his head decisively, "No. There are no known limits to The Brain's capacity. It's a different matter. It's a question of the Robotic Laws. You know them, I suppose." It was a statement.

"Oh, yes! Yes!" Robertson slurred them out rapidly. "One: A robot may not, by action, or through inaction, harm a human being. Two: A robot must obey orders given by authorized human personnel, except where this would conflict with Rule One. Three: A robot must protect its own existence except where this would conflict with Rules One and Two."

"Um-m-m," Lanning went on, "those rules are fundamental to robotics. The Brain, for instance, could never supply a solution to a problem set to it that would involve the death or injury to humans. As far as it would be concerned, a problem with only such a solution would be insoluble. If such a problem is combined with an extremely urgent demand that it be answered, it is just possible that The Brain, only a robot after all, would be presented with a dilemma, where it could neither answer nor refuse to answer. Something of the sort must have happened to Consolidated's machine."

He paused, but the general manager urged on, "Go ahead, Dr. Lanning. Explain it the way you explained it to me."

Lanning set his lips and raised his eyebrows in the direction of the woman next to him, and Dr. Susan Calvin lifted her eyes from her precisely folded hands for the first time. Her voice was low and colorless.

"The nature of a robot reaction to a dilemma is startling," she began. "Robot psychology is far from perfect—as a specialist, I can assure you of that— but it can be discussed in qualitative terms, because with all the complications introduced into a robot's positronic brain, it is built by humans and is therefore built according to human values.

"Now a human caught in an impossibility often responds by a retreat from reality: by entry into a world of delusion, or by taking to drink, going off into hysteria, or jumping off a bridge. It all comes to the same thing—a refusal or inability to face the situation squarely. And so, the robot. A dilemma at its mildest will disorder half its relays; and at its worst it will burn out every positronic brain path past repair."

"I see," said Robertson, who didn't. "Now what about this information Consolidated's wishing on us?"

"It undoubtedly involves," said Dr. Calvin, "a problem of a forbidden sort. But The Brain is considerably different from Consolidated's robot."

"That's right, chief. That's right," The general manager was energetically interruptive. "I want you to get this, because it's the whole point of the situation."

Susan Calvin's eyes glittered behind the spectacles, and she con-

tinued patiently, "You see, sir, Consolidated's machines, their Super-Thinker among them, are built without personality. They go in for functionalism, you know—they have to, without U. S. Robot's basic patents for the emotional brain-paths. Their Thinker is merely a calculating machine on a grand scale, and a dilemma ruins it instantly.

"However, The Brain, our own machine, has a personality—a child's personality. It is a supremely deductive brain, but it resembles an *idiot savante*. It doesn't really understand what it does—it just does it. And because it is really a child, it is more resilient. Life isn't so serious, you might say."

The robot-psychologist smiled briefly at her own cautious flight into gentle metaphor, and continued in more businesslike fashion:

"Here is what we're going to do. We have divided all of Consolidated's information into logical units. We're going to feed the units to The Brain singly and cautiously. When *the* factor enters—the one that createst the dilemma—The Brain's child personality will hesitate. Its sense of judgment is not mature. There will be a perceptible interval before it will recognize a dilemma as such. And in that interval, it will reject the unit automatically—before its brain-paths can be set in motion and ruined."

Robertson's Adam's apple squirmed, "Are you sure, now?"

Dr. Calvin masked impatience, "It doesn't make much sense, I admit, in lay language; but there is no conceivable use in presenting the mathematics of this. I assure you, it is as I say."

The general manager was in the breach instantly and fluently, "So here's the situation, chief. If we take the deal, we can put it through like this. The Brain will tell us which unit of information involves the dilemma. From there, we can figure *why* the dilemma. Isn't that right, Dr. Bogert? There you are, chief, and Dr. Bogert is the best mathematician you'll find anywhere. We give Consolidated a 'No Solution's answer, with the reason, and collect a hundred thousand. They're left with a broken machine; we're left with a whole one. In a year, two maybe, we'll have a space-warp engine—the biggest thing in the world. How about it?"

Robertson chuckled and reached out, "Let's see the contract. I'll sign it."

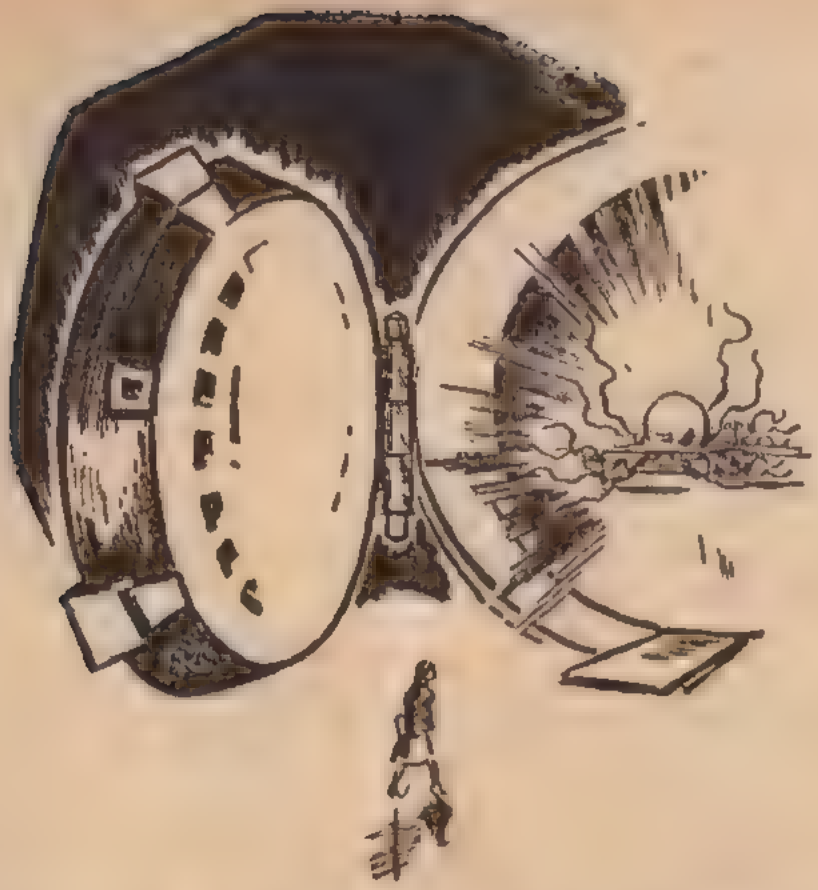
When Susan Calvin entered the fantastically-guarded vault that held The Brain, one of the current shift of technicians had just asked it: "If one and a half chickens lay one and a half eggs in one and a half days, how many eggs will nine chickens lay in nine days?"

The Brain had just answered, "fifty-four."

And the technician had just said to another, "See, you dope!"

Dr. Calvin coughed and there was a sudden impossible flurry of directionless energy. The psychologist motioned briefly, and she was alone with The Brain.

The Brain was a two-foot globe



merely—one which contained within it a thoroughly conditioned helium atmosphere, a volume of space completely vibration-absent and radiation-free—and within that was that unheard-of complexity of positronic brain-paths that was The Brain. The rest of the room was crowded with the attachments that were the intermediaries between The Brain and the outside world—its voice, its arms, its sense organs.

Dr. Calvin said softly, "How are you, Brain?"

The Brain's voice was high-pitched and enthusiastic, "Swell, Miss Susan. You're going to ask me something. I can tell. You always have a book in your hand when you're going to ask me something."

Dr. Calvin smiled mildly, "Well, you're right, but not just yet. This is going to be some question. It will be so complicated we're going to give it to you in writing. But not just yet. I think I'll talk to you first."

"All right. I don't mind talking."

"Now, Brain, in a little while, Dr. Lanning and Dr. Bogert will be here with this complicated question. We'll give it to you a very little at a time and very slowly, because we want you to be careful. We're going to ask you to build something, if you can, out of the information, but I'm going to warn you now that the solution might involve . . . uh . . . damage to human beings."

"Gosh!" The exclamation was hushed, drawn-out.

"Now you watch for that. When we come to a sheet which means damage, even maybe death, don't get excited. You see, Brain, in this case, we don't mind—not even about death; we don't mind at all. So when you come to that sheet, just stop, give it back—and that'll be all. You understand?"

"Oh, sure. But, golly, the death of humans! Oh, my!"

"Now, Brain, I hear Dr. Lanning and Dr. Bogert coming. They'll tell you what the problem is all about and then we'll start. Be a good boy, now—"

Slowly the sheets were fed in. After each one came the interval of the queerly whispery chuckling noise that was The Brain in action. Then the silence that meant readiness for another sheet. It was a matter of hours—during which the equivalent of something like seventeen fat volumes of mathematical physics were fed into The Brain.

As the process went on, frowns appeared and deepened. Lanning muttered ferociously under his breath. Bogert first gazed speculatively at his fingernails, and then bit at them in abstracted fashion. It was when the last of the thick pile of sheets disappeared that Calvin, white-faced, said:

"Something's wrong."

Lanning barely got the words out, "It can't be. Is it—dead?"

"Brain?" Susan Calvin was trembling. "Do you hear me, Brain?"

"Huh?" came the abstracted rejoinder. "Do you want me?"

"The solution—"

"Oh, that! I can do it. I'll build you a whole ship, just as easy—if you let me have the robots. A nice ship. It'll take two months maybe."

"There was—no difficulty?"

"It took long to figure," said The Brain.

Dr. Calvin backed away. The color had not returned to her thin cheeks. She motioned the others away.

In her office, she said, "I can't understand it. The information, as given, must involve a dilemma—probably involves death. If something has gone wrong—"

Bogert said quietly, "The machine talks and makes sense. It can't be in a dilemma."

But the psychologist replied urgently, "There are dilemmas *and* dilemmas. There are different forms of escape. Suppose The Brain is only mildly caught; just badly enough, say, to be suffering from the delusion that he can solve the problem, when he can't. Or suppose it's teetering on the brink of something really bad, so that any small push shoves it over."

"Suppose," said Lanning, "there is no dilemma. Suppose Consolidated's machine broke down over a different question, or broke down for purely mechanical reasons."

"But even so," insisted Calvin, "we couldn't take chances. Listen, from now on, no one is to as much as breathe to The Brain. I'm taking over."

"All right," sighed Lanning, "take over, then. And meanwhile we'll let The Brain build its ship.

And if it *does* build it, we'll have to test it."

He was ruminating, "We'll need our top field men for *that*."

Michael Donovan brushed down his red hair with a violent motion of his hand and a total indifference to the fact that the unruly mass sprang to attention again immediately.

He said, "Call the turn now, Greg. They say the ship is finished. They don't know what it is, but it's finished. Let's go, Greg. Let's grab the controls right now."

Powell said wearily, "Cut it, Mike. There's a peculiar overripe flavor to your humor at its freshest, and the confined atmosphere here isn't helping it."

"Well, listen," Donovan took another ineffectual swipe at his hair, "I'm not worried so much about our cast-iron genius and his tin ship. There's the matter of my lost leave. And the monotony! There's nothing here but whiskers and figures—the wrong kind of figures. Oh, why do they *give* us these jobs?"

"Because," replied Powell, gently, "we're no loss, if they lose us. O.K. relax! Doc Lanning's coming this way."

Lanning was coming, his gray eyebrows as lavish as ever, his aged figure unbent as yet and full of life. He walked silently up the ramp with the two men and out into the open field, where, obeying no human master, silent robots were building a ship.

Wrong tense! *Had* built a ship!

For Lanning said, "The robots have stopped. Not one has moved today."

"It's completed then? Definitely?" asked Powell.

"Now how can I tell?" Lanning was peevish, and his eyebrows curled down in an eye-hiding frown. "It *seems* done. There are no spare pieces about, and the interior is down to a gleaming finish."

"You've been inside?"

"Just in, then out. I'm no space-pilot. Either of you two know much about engine theory?"

Donovan looked at Powell, who looked at Donovan.

Donovan said, "I've got my license, sir, but at last reading it didn't say anything about hyper-engines or warp-navigation. Just the usual child's play in three dimensions."

Alfred Lanning looked up with sharp disapproval and snorted the length of his prominent nose.

He said frigidly, "Well, we have our engine men."

Powell caught at his elbow as he walked away, "Sir, is the ship still restricted ground?"

The old director hesitated, then rubbed the bridge of his nose, "I suppose not. For you two, anyway."

Donovan looked after him as he left and muttered a short, expressive phrase at his back. He turned to Powell, "I'd like to give him a literary description of himself, Greg."

"Suppose you come along, Mike."

The inside of the ship was finished, as finished as a ship ever was;

that could be told in a single eye-blinking glance. No martinet in the System could have put as much spit-and-polish into a surface as those robots had. The walls were of a gleaming silvery finish that retained no fingerprints.

There were no angles; walls, floors, and ceiling faded gently into each other and in the cold, metallic glittering of the hidden lights, one was surrounded by six chilly reflections of one's bewildered self.

The main corridor was a narrow tunnel that led in a hard, clatter-footed stretch along a line of rooms of no interdistinguishing features.

Powell said, "I suppose furniture is built into the wall. Or maybe we're not supposed to sit or sleep."

It was in the last room, the one nearest the nose that the monotony broke. A curving window of non-reflecting glass was the first break in the universal metal, and below it was a single large dial, with a single motionless needle hard against the zero mark.

Donovan said, "Look at that!" and pointed to the single word on the finely-marked scale.

It said "Parsecs" and the tiny figure at the right end of the curving, graduated meter said "1,000,000."

There were two chairs; heavy, wide-flaring, uncushioned. Powell seated himself gingerly, and found it molded to the body's curves, and comfortable.

Powell said, "What do you think of it?"

"For my money, The Brain has brain-fever. Let's get out."

"Sure you don't want to look it over a bit?"

"I have looked it over. I came, I saw, I'm through!" Donovan's red hair bristled into separate wires. "Greg, let's get out of here. I quit my job five seconds ago, and this is a restricted area for nonpersonnel."

Powell smiled in an oily, self-satisfied manner and smoothed his mustache, "O.K., Mike, turn off that adrenalin tap you've got draining into your bloodstream. I was worried, too, but no more."

"No more, huh? How come, no more? Increased your insurance?"

"Mike, this ship can't fly."

"How do you know?"

"Well, we've been through the entire ship, haven't we?"

"Seems so."

"Take my word for it, we have. Did you see any pilot room except for this one port and the one gauge here in parsecs? Did you see any controls?"

"No."

"And did you see any engines?"

"Holy Joe, no!"

"Well, then! Let's break the news to Lanning, Mike."

They cursed their way through the featureless corridors and finally hit-and-missed their way into the short passage to the air lock.

Donovan stiffened, "Did you lock this thing, Greg?"

"No, I never touched it. Yank the lever, will you?"

The lever never budged, though Donovan's face twisted appallingly with exertion.

Powell said, "I didn't see any

emergency exits. If something's gone wrong here, they'll have to melt us out."

"Yes, and we've got to wait until they find out that some fool has locked us in here," added Donovan, frantically.

"Let's get back to the room with the port. It's the only place from which we might attract attention."

But they didn't.

In that last room, the port was no longer blue and full of sky. It was black, and hard yellow pin-point stars spelled *space*.

There was a dull, double thud, as two bodies collapsed separately into two chairs.

Alfred Lanning met Dr. Calvin just outside his office. He lit a nervous cigar and motioned her in.

He said, "Well, Susan, we've come pretty far, and Robertson's getting jumpy. What are you doing with The Brain?"

Susan Calvin spread her hands, "It's no use getting impatient. The Brain is worth more than anything we forfeit on this deal."

"But you've been questioning it for two months."

The psychologist's voice was flat, but somehow dangerous, "You would rather run this yourself."

"Now you know what I mean."

"Oh, I suppose I do." Dr. Calvin rubbed her hands nervously. "It isn't easy. I've been pampering it and probing it gently, and I haven't gotten anywhere yet. Its reactions aren't normal. Its answers—they're queer, somehow. But nothing I can put my finger on yet. And you see, until we know what's wrong, we must just tiptoe our way through. I can never tell what simple question or remark will just . . . push him over . . . and then— Well, and then we'll have on our hands a completely useless Brain. Do you want to face that?"

"Well, it can't break the First Law."

"I would have thought so, but—"

"You're not even sure of that?" Lanning was profoundly shocked.

"Oh, I can't be sure of anything, Alfred—"

The alarm system raised its fearful clangor with a horrifying suddenness. Lanning clicked on communications with an almost paralytic spasm. The breathless words froze him.

He said, "Susan . . . you heard that . . . the ship's gone. I sent those two field men inside half an hour ago. You'll have to see The Brain again."

Susan Calvin said with enforced calm, "Brain, what has happened to the ship?"

The Brain said happily, "The ship I built, Miss Susan?"

"That's right. What has happened to it?"

"Why, nothing at all. The two men that were supposed to test it were inside, and we were all set. So I sent it off."

"Oh— Well, that's nice." The psychologist felt some difficulty in breathing, "Do you think they'll be all right?"

"Right as anything, Miss Susan.

I've taken care of it all. It's a bee-yoo-tiful ship."

"Yes, Brain, it *is* beautiful, but you think they have enough food, don't you? They'll be comfortable?"

"Plenty of food."

"This business might be a shock to them, Brain. Unexpected, you know."

The Brain tossed it off, "They'll be all right. It ought to be interesting for them."

"Interesting? How?"

"Just interesting," said The Brain, slyly.

"Susan," whispered Lanning in a fuming whisper, "ask him if death comes into it. Ask him what the dangers are."

Susan Calvin's expression contorted with fury, "Keep quiet!" In a shaken voice, she said to The Brain. "We can communicate with the ship, can't we, Brain?"

"Oh, they can hear you if you call by radio. I've taken care of that."

"Thanks. That's all for now."

Once outside, Lanning lashed out ragingly, "Great Galaxy, Susan, if this gets out, it will ruin all of us. We've got to get those men back. Why didn't you ask it if there was danger of death—straight out."

"Because," said Calvin, with a weary frustration, "that's just what I can't mention. If it's got a case of dilemma, it's about death. Anything that would bring it up badly might knock it completely out. Will we be better off then? Now, look, it said we could communicate with them. Let's do so, get their location, and bring them back. They probably can't use the controls themselves; The Brain is probably handling them remotely. Come!"

It was quite a while before Powell shook himself together.

"Mike," he said, out of cold lips, "did you feel any acceleration?"

Donovan's eyes were blank, "Huh? No . . . no."

And then the redhead's fists clenched and he was out of his seat with sudden frenzied energy and up against the cold, wide-curving glass. There was nothing to see—but stars.

He turned, "Greg, they must have started the machine while we were inside. Greg, it's a put-up job; they fixed it up with the robot to jerry us into being the try-out boys, in case we were thinking of backing out."

Powell said, "What are you talking about? What's the good of sending us out if we don't know how to run the machine? How are we supposed to bring it back? No, this ship left by itself, and without any apparent acceleration." He rose, and walked the floor slowly. The metal walls dinned back the clangor of his steps.

He said tonelessly, "Mike, this is the most confusing situation we've ever been up against."

"That," said Donovan, bitterly, "is news to me. I was just beginning to have a very swell time, when you told me."

Powell ignored that. "No ac-

celeration—which means the ship works on a principle different from any known."

"Different from any we know, anyway."

"Different from *any* known. There are no engines within reach of manual control. Maybe they're built into the walls. Maybe that's why they're thick as they are."

"What are you mumbling about?" demanded Donovan.

"Why not listen? I'm saying that whatever powers this ship is enclosed, and evidently not meant to be handled. The ship is running by remote control."

"The Brain's control?"

"Why not?"

"Then you think we'll stay out here till The Brain brings us back."

"It could be. If so, let's wait quietly. The Brain is a robot. It's got to follow the First Law. It can't hurt a human being."

Donovan sat down slowly, "You figure that?" Carefully, he flattened his hair, "Listen, this junk about the space-warp knocked out Consolidated's robot, and the long-hairs said it was because interstellar travel killed humans. Which robot are you going to trust? Ours had the same data, I understand."

Powell was yanking madly at his mustache, "Don't pretend you don't know your robotics, Mike. Before it's physically possible in any way for a robot to even make a start to breaking the First Law, so many things have to break down that it would be a ruined mess of scrap ten times over. There's some simple explanation to this."

"Oh sure, sure. Just have the butler call me in the morning. It's all just too, too simple for me to bother about before my beauty nap."

"Well, Jupiter, Mike, what are you complaining about so far? The Brain is taking care of us. This place is warm. It's got light. It's got air. There wasn't even enough of an acceleration jar to muss your hair if it were smooth enough to be mussable in the first place."

"Yeah? Greg, you must've taken lessons. No one could put Pollyanna that far out of the running without. What do we eat? What do we drink? Where are we? How do we get back? And in case of accident, to what exit and in what spacesuit do we run, not walk? I haven't even seen a bathroom in the place, or those little conveniences that go along with bathrooms. Sure, we're being taken care of—but good!"

The voice that interrupted Donovan's tirade was not Powell's. It was nobody's. It was there, hanging in open air—stentorian and petrifying in its effects.

"GREGORY POWELL! MICHAEL DONOVAN! GREGORY POWELL! MICHAEL DONOVAN! PLEASE REPORT YOUR PRESENT POSITIONS. IF YOUR SHIP ANSWERS CONTROLS, PLEASE RETURN TO BASE. GREGORY POWELL! MICHAEL DONOVAN!—"

The message was repetitious,

mechanical, broken by regular, untiring intervals.

Donovan said, "Where's it coming from?"

"I don't know." Powell's voice was an intense whisper, "Where do the lights come from? Where does anything come from?"

"Well, how are we going to answer?" They had to speak in the intervals between the loudly echoing, repeating message.

The walls were bare—as bare and as unbroken as smooth, curving metal can be. Powell said, "Shout an answer."

They did. They shouted, in turns, and together, "Position unknown! Ship out of control! Condition desperate!"

Their voices rose and cracked. The short businesslike sentences became interlarded and adulterated with screaming and emphatic profanity, but the cold, calling voice repeated and repeated and repeated unwearyingly.

"They don't hear us," gasped Donovan. "There's no sending mechanism. Just a receiver." His eyes focused blindly at a random spot on the wall.

Slowly the din of the outside voice softened and receded. They called again when it was a whisper, and they called again, hoarsely, when there was silence.

Something like fifteen minutes later, Powell said lifelessly, "Let's go through the ship again. There must be something to eat somewheres." He did not sound hopeful. It was almost an admission of defeat.

They divided in the corridor to the right and left. They could follow one another by the hard footsteps resounding, and they met occasionally in the corridor, where they would glare at each other and pass on.

Powell's search ended suddenly and as it did, he heard Donovan's glad voice rise boomingly.

"Hey, Greg," it howled, "the ship *has* got plumbing. How did we miss it?"

It was some five minutes later that he found Powell by hit-and-miss. He was saying, "Still no shower baths, though," but it got choked off in the middle.

"Food," he gasped.

The wall had dropped away, leaving a curved gap with two shelves. The upper shelf was loaded with unlabeled cans of a bewildering variety of sizes and shapes. The enameled cans on the lower shelf were uniform and Donovan felt a cold draft about his ankles. The lower half was refrigerated.

"How . . . how—"

"It wasn't there, before," said Powell, curtly. "That wall section dropped out of sight as I came in the door."

He was eating. The can was the pre-heating type with inclosed spoon and the warm odor of baked beans filled the room. "Grab a can, Mike!"

Donovan hesitated, "What's the menu?"

"How do I know! Are you finicky?"

"No, but all I eat on ships are

beans. Something else would be first choice." His hand hovered and selected a shining elliptical can whose flatness seemed reminiscent of salmon or similar delicacy. It opened at the proper pressure.

"Beans!" howled Donovan, and reached for another. Powell hauled at the slack of his pants. "Better eat that, sonny boy. Supplies are limited and we may be here a long, long time."

Donovan drew back sulkily, "Is that all we have? Beans?"

"Could be."

"What's on the lower shelf?"

"Milk."

"Just milk?" Donovan cried in outrage.

"Looks it."

The meal of beans and milk was carried through in silence, and as they left, the strip of hidden wall rose up and formed an unbroken surface once more.

Powell sighed, "Everything automatic. Everything just so. Never felt so helpless in my life. Where's your plumbing?"

"Right there. And that wasn't among those present when we first looked, either."

Fifteen minutes later they were back in the glassed-in room, staring at each other from opposing seats.

Powell looked gloomily at the one gauge in the room. It still said "parsecs," the figures still ended in "1,000,000" and the indicating needle was still pressed hard against the zero mark.

In the innermost offices of the United States Robot & Mechanical Men Corp. Alfred Lanning was saying wearily, "They won't answer. We've tried every wavelength, public, private, coded, straight, even this sub-ether stuff they have now. And The Brain still won't say anything?" He shot this at Dr. Calvin.

"It won't amplify on the matter, Alfred," she said, emphatically. "It says they can hear us . . . and when I try to press it, it becomes . . . well, it becomes sullen. And it's not supposed to— Whoever heard of a sullen robot?"

"Suppose you tell us what you have, Susan," said Bogert.

"Here it is! It admits it controls the ship itself entirely. It is definitely optimistic about their safety, but without details. I don't dare press it. However, the center of disturbance seems to be about the interstellar jump itself. The Brain definitely laughed when I brought up the subject. There are other indications, but that is the closest it's come to an open abnormality."

She looked at the others, "I refer to hysteria. I dropped the subject immediately, and I hope I did no harm, but it gave me a lead. I can handle hysteria. Give me twelve hours! If I can bring it back to normal, it will bring back the ship."

Bogert seemed suddenly stricken. "The interstellar jump!"

"What's the matter?" The cry was double from Calvin and Lanning.

"The figures for the engine The Brain gave us. Say . . . I just thought of something."

He left hurriedly.

Lanning gazed after him. He said

brusquely to Calvin, "You take care of your end, Susan."

Two hours later, Bogert was talking eagerly, "I tell you, Lanning, that's it. The interstellar jump is not instantaneous—not as long as the speed of light is finite. Life can't exist . . . *matter and energy* as such can't exist in the space warp. I don't know what it would be like—but that's it. That's what killed Consolidated's robot."

Donovan felt as haggard as he looked, "Only five days?"

"Only five days. I'm sure of it."

Donovan looked about him wretchedly. The stars through the glass were familiar but infinitely indifferent. The walls were cold to the touch; the lights, which had recently flared up again, were unfeelingly bright; the needle on the gauge pointed stubbornly to zero; and Donovan could not get rid of the taste of beans.

He said, morsely, "I need a bath."

Powell looked up briefly, and said, "So do I. You needn't feel self-conscious. But unless you want to bathe in milk and do without drinking—"

"We'll do without drinking eventually, anyway. Greg, where does this interstellar travel come in?"

"You tell me. Maybe we just keep on going. We'd get there, eventually. At least the dust of our skeletons would—but isn't our death the whole point of The Brain's original breakdown?"

Donovan spoke with his back to the other, "Greg, I've been thinking. It's pretty bad. There's not much to do—except walk around or talk to yourself. You know those stories about guys marooned in space. They go nuts long before they starve. I don't know, Greg, but ever since the lights went on, I feel funny."

There was a silence, then Powell's voice came thin and small, "So do I. What's it like?"

The red-headed figure turned, "Feel funny inside. There's a pounding in me with everything tense. It's hard to breathe. I can't stand still."

"Um-m-m. Do you feel vibration?"

"How do you mean?"

"Sit down for a minute and listen. You don't hear it, but you feel it—as if something's throbbing somewheres and it's throbbing the whole ship, and you, too, along with it. Listen—"

"Yeah . . . yeah. What do you think it is, Greg? You don't suppose it's us?"

"It might be," Powell stroked his mustache slowly. "But it might be the ship's engines. It might be getting ready."

"For what?"

"For the interstellar jump. It may be coming and the devil knows what it's like."

Donovan pondered. Then he said, savagely, "If it does, let it. But I wish we could fight. It's humiliating to have to wait for it."

An hour later, perhaps, Powell looked at his hand on the metal chair-arm and said with frozen calm, "Feel the wall, Mike."

Donovan did, and said, "You can feel it shake, Greg."

Even the stars seemed blurred. From somewhere came the vague impression of a huge machine gathering power with the walls, storing up energy for a mighty leap, throbbing its way up the scales of strength.

It came with a suddenness and a stab of pain. Powell stiffened and half-jerked from his chair. His sight caught Donovan and blanked out while Donovan's thin shout whimpered and died in his ears. Something writhed within him and struggled against a growing blanket of ice, that thickened.

Something broke loose and whirled in a blaze of flickering light and pain. It fell—

—and whirled

—and fell headlong

—into silence!

It was death!

It was a world of no motion and no sensation. A world of dim, unsensing consciousness; a consciousness of darkness and of silence and of formless struggle.

Most of all a consciousness of eternity.

He was a tiny white thread of ego —cold and afraid.

Then the words came, unctuous and sonorous, thundering over him in a foam of sound:

"Does your coffin fit differently lately? Why not try Morbid M. Cadaver's extensible caskets? They are scientifically designed to fit the natural curves of the body, and are enriched with Vitamin B1. Use Cadaver's caskets for comfort. Remember—you're—going — to — be —dead—a—long—long—time!

It wasn't quite sound, but whatever it was, it died away in an oily rumbling whisper.

The white thread that might have been Powell heaved uselessly at the insubstantial eons of time that existed all about him—and collapsed upon itself as the piercing shriek of a hundred million ghosts of a hundred million soprano voices rose to a crescendo of melody:

"I'll be glad when you're dead, you rascal, you.

"I'll be glad when you're dead, you rascal, you.

"I'll be glad—"

It rose up a spiral stairway of violent sound into the keening supersonics that passed hearing, and then beyond—

The white thread quivered with a pulsating pang. It strained quietly—

The voices were ordinary—and many. It was a crowd speaking; a swirling mob that swept through and past and over him with a rapid, headlong motion, that left drifting tatters of words behind them.

"What did they getcha for, boy? Y'look banged up—"

"—a hot fire, I guess, but I got a case—"

"—I've made Paradise, but old St. Pete—"

"Naaah, I got a pull with the boy. Had dealings with him—"

"Hey, Sam, come this way—"

"Ja get a mouthpiece? Beelzebub says—"

"—Going on, my good imp? My appointment is with Sa—"

And above it all, the original stentorian roar, that plunged across all:

"HURRY! HURRY! HURRY! Stir your bones, and don't keep us waiting—there are many more in line. Have your certificates ready, and make sure Peter's release is stamped across it. See if you are at the proper entrance gate. There will be plenty of fire for all. Hey, you — YOU DOWN THERE. TAKE YOUR PLACE IN LINE OR—"

The white thread that was Powell groveled backward before the advancing shout, and felt the sharp stab of the pointing finger.

It all exploded into a rainbow of sound that dripped its fragments onto an aching brain.

Powell was in the chair, again. He felt himself shaking.

Donovan's eyes were opening into two large popping bowls of glazed blue.

"Greg," he whispered in what was almost a sob. "Were you dead?"

"I . . . felt dead." He did not recognize his own croak.

Donovan was obviously making a bad failure of his attempt to stand up, "Are we alive now? Or is there more?"

"I . . . feel alive." It was the same hoarseness. Powell said cautiously, "Did you . . . hear anything, when you . . . when you were dead?"

Donovan paused, and then very slowly nodded his head, "Did you?"

"Yes. Did you hear about coffins . . . and females singing . . . and the lines forming to get into Hell? Did you?"

Donovan shook his head, "Just one voice."

"Loud?"

"No. Soft, but rough like a file over the fingertips. It was a sermon, you know. About hell-fire. He described the tortures of . . . well, *you know.* I once heard a sermon like that—almost."

He was perspiring.

They were conscious of sunlight through the port. It was weak, but it was blue-white—and the gleaming pea that was the distant source of light was not Old Sol.

And Powell pointed a trembling finger at the single gauge. The needle stood stiff and proud at the hairline whose figure read 300,000 parsecs.

Powell said, "Mike, if it's true, we must be out of the Galaxy altogether."

Donovan said, "Blazes! Greg! We'd be the first men out of the Solar System."

"Yes! That's just it. We've escaped the sun. We've escaped the Galaxy. Mike, this ship is the answer. It means freedom for all humanity — freedom to spread through to every star that exists—millions and billions and trillions of them."

And then he came down with a hard thud, "But how do we get back, Mike?"

Donovan smiled shakily, "Oh, that's all right. The ship brought us here. The ship will take us back. Me for more beans."

"But Mike . . . hold on, Mike. If he takes us back the way it brought us here—"

Donovan stopped halfway up and sat back heavily into the chair.

Powell went on, "We'll have to . . . die again, Mike."

"Well," sighed Donovan, "if we have to, we have to. At least it isn't permanent, not very permanent."

Susan Calvin was speaking slowly now. For six hours she had been slowly prodding The Brain—for six fruitless hours. She was weary of repetitions, weary of circumlocutions, weary of everything.

"Now, Brain, there's just one more thing. You must make a special effort to answer simply. Have you been entirely clear about the interstellar jump? I mean does it take them very far?"

"As far as they want to go, Miss Susan. Golly, it isn't any trick through the warp."

"And on the other side, what will they see?"

"Stars and stuff. What do you suppose?"

The next question slipped out. "They'll be alive, then?"

"Sure!"

"And the interstellar jump won't hurt them?"

She froze as The Brain maintained silence. That was it! She had touched the sore spot.

"Brain," she supplicated faintly. "Brain, do you hear me?"

The answer was weak, quivering. The Brain said, "Do I have to answer? About the jump, I mean?"

"Not if you don't want to. But it would be interesting—I mean if you wanted to." Susan Calvin tried to be bright about it.

"Aw-w-w. You spoil everything."

And the psychologist jumped up suddenly, with a look of flaming insight on her face.

"Oh, my," she gasped. "Oh, my."

And then she laughed and laughed and laughed—hysterically and unbearably—the tension of hours and days released in a burst.

It was later, weak and spent, that she told Lanning, "I tell you it's all right. No, you must leave me alone, now. The ship will be back safely, *with* the men, and I want to rest. I *will* rest. Now go away."

The ship returned to Earth as silently, as unjarringly as it had left. It dropped precisely into place and the main lock gaped open. The two men who walked out felt their way carefully and scratched their rough and scrubbily-stubbled chins.

And then, slowly and purposefully, the one with red hair knelt down and planted upon the concrete of the runway a firm, loud kiss.

They waved aside the crowd that was gathering and made gestures of denial at the eager couple that had piled out of the down-swooping ambulance with a stretcher between them.

Gregory Powell said, "Where's the nearest shower?"

They were led away.

They were gathered, all of them, about a table. It was a full staff meeting of the brains of U. S. Robot & Mechanical Men Corp.

Slowly and climactically, Powell and Donovan finished a graphic and resounding story.

Susan Calvin broke the silence that followed. In the few days that had elapsed she had recovered her icy, somewhat acid, calm—but still a trace of embarrassment broke through.

"Strictly speaking," she said, "this was my fault—all of it. When we first presented this problem to The Brain, as I hope some of you remember, I went to great lengths to impress upon it the importance of rejecting any item of information capable of creating a dilemma. In doing so I said something like 'Don't get excited about the death of humans. We don't mind it at all. Just give the sheet back and forget it.'"

"Hm-m-m," said Lanning. "What follows?"

"The obvious. When that item entered its calculations which yielded the equation controlling the length of minimum interval for the interstellar jump—it meant death for humans. That's where Consolidated's machine broke down completely. But I had depressed the importance of death to The Brain—not entirely, for the First Law can never be broken—but just sufficiently so that The Brain could take a second look at the equation. Sufficiently to give it time to realize that after the interval was passed through, the men would return to

life—just as the matter and energy of the ship itself would return to being. This so-called 'death,' in other words, was a strictly temporary phenomenon. You see?"

She looked about her. They were all listening.

She went on, "So he accepted the item, but not without a certain jar. Even with death temporary and its importance depressed, it was enough to unbalance him very-gently."

She brought it out calmly, "He developed a sense of humor—it's an escape, you know, a method of partial escape from reality. He became a practical joker."

Powell and Donovan were on their feet.

"What?" cried Powell.

Donovan was considerably more colorful about it.

"It's so," said Calvin. "He took care of you, and kept you safe, but you couldn't handle any controls, because they weren't for you—just for the humorous Brain. We could reach you by radio, but you couldn't answer. You had plenty of food, but all of it beans and milk. Then you died, so to speak, and were reborn, but the period of your death was made . . . well . . . interesting. I wish I knew how he did it. It was The Brain's prize little joke, but he meant no harm."

"No harm!" gasped Donovan. "Oh, if that cute little tyke only had a neck."

Lanning raised a quieting hand, "All right, it's been a mess, but it's over. What now?"

"Well," said Bogert, quietly, "obviously it's up to us to improve the space-warp engine. There must be some way of getting around that interval of jump. If there is, we're the only organization left with a grand-scale super-robot, so we're bound to find it if anyone. And then—U. S. Robots has interstellar travel, and humanity has the opportunity for galactic empire."

"What about Consolidated?" said Lanning.

"Hey," interrupted Donovan suddenly, "I want to make a suggestion there. They landed U. S. Robots into quite a mess. It wasn't as bad a mess as they expected and it turned out well, but their intentions weren't pious. And Greg and I bore the most of it.

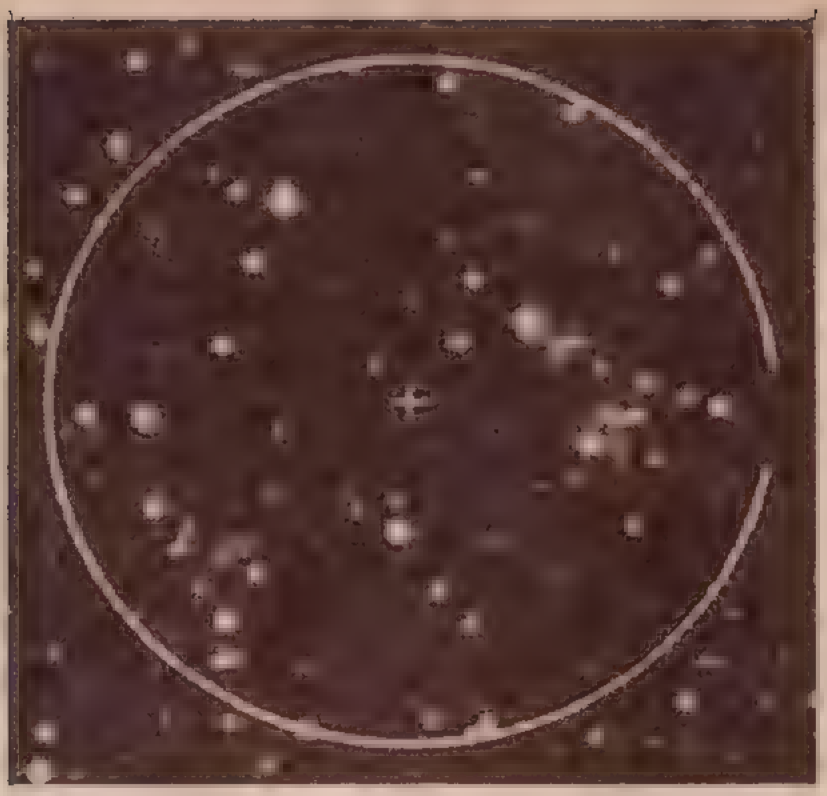
"Well, they wanted an answer, and they've got one. Send them that ship, guaranteed, and U. S. Robots can collect their two hundred thou plus construction costs. And if they test it—then suppose we let The Brain have just a little more fun before it's brought back to normal."

Lanning said gravely, "It sounds just and proper to me."

To which Bogert added absently, "Strictly according to contract, too."

THE END.

*Two plates of the same area of the sky—the upper one exposed on blue-sensitive film; the lower made on red-sensitive film. Notice that the greater number of stars visible on the red plate is not due simply to longer exposure, but to an enormous change in apparent relative brightness*



# Advance in the Red

## by R. S. RICHARDSON

Photographs from Mount Wilson Observatory

***Above** is a photograph of the remains of the supernova Ophiuchi of 1604, "Kepler's Star," located after more than three centuries by Dr. Walter Baade, with the aid of red-sensitive photographic plates. Calculation from the centuries old observations indicated it should be at the point marked with a cross, or within 1′ of arc of that point. Red-sensitive photography made possible this plate that shows Nova Ophiuchi the luminous, nebulous mass of fan-shaped bright knots and filaments on the right—and promises even more in understanding of what makes a Universe and makes a Universe run.*

While browsing through some scientific journals recently in search of information pertaining to the appearance of Halley's Comet in 1909, my attention was drawn to a paper published that year upon quite a different subject. It was by an astronomer who is now director of an observatory and the author of several books about the stars. Doubtless he has almost forgotten his dissertation written thirty-six

years ago "in partial fulfillment for the requirements of the degree of Doctor of Philosophy in astronomy."

What aroused my interest was the incredible state of our ignorance so short a time ago as the last return of Halley's Comet. This paper represented the best astronomical knowledge of its period. Yet its boldest statements sounded feeble compared with conceptions that we take as a matter of course today—as those of today will doubtless sound when Halley's Comet returns again in 1985.

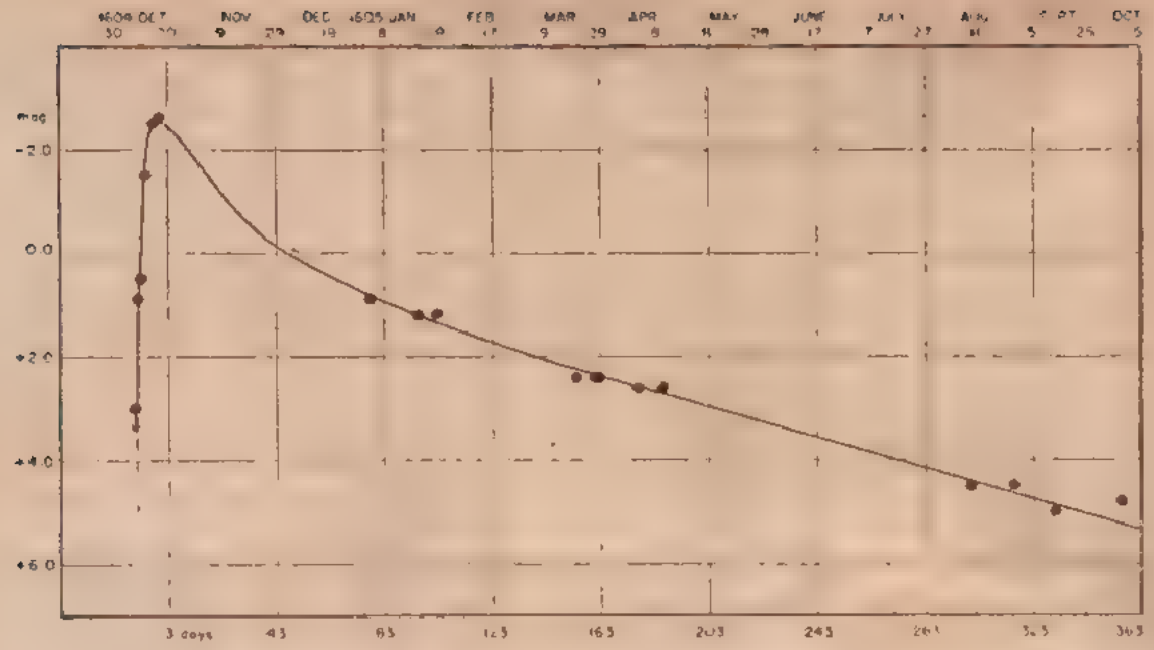
This student had secured photographs of the Andromeda nebula from which he attempted to deduce the nature of its constitution. From his photographs it appeared that the nebula must be composed of clusters of stars. Against this was the fact that the only measurement of the distance of the Andromeda nebula put it at nineteen light-years! If this were true, then the stars composing the nebula must be about the size of asteroids in order not to be resolved into individual points of light. There was also some speculation regarding the nature of the central luminosity—is it a single star or a close cluster of stars? Fortunately for posterity, the author finally went out on a limb with the flat statement that in his opinion the nebula was composed of stars, the distance factor notwithstanding.

As this is written a paper has just appeared in the *Astrophysical Journal* announcing that the nucleus of the Andromeda nebula and its two close companions, Messier 32 and NGC 205, have for the first time been resolved into separate stars. Hitherto every attempt to force a resolution had ended in failure, and the problem was regarded as one that would have to wait for completion of the 200-inch. But it was successfully solved on a plate taken at the 100-inch on the night of September 23, 1943, while the 200-inch disk was reposing peacefully on the grounds of the California Institute of Technology.

How was this feat accomplished? It is merely a part of the "red revolution" that has been going on in astronomy for the last twenty years.

Photographic emulsions sensitive to blue and violet light have been used in astronomy for nearly a century. In fact, it was the resurrection of plates of the double star 61 Cygni taken by Rutherford in 1870 that enabled us to detect the existence of an invisible third component in the system, the first interstellar planet discovery. Moreover, these early blue-sensitive emulsions compare favorably in speed and plate grain with the best available today. Indeed, not until very recently have astronomers discovered any way to speed up a blue-sensitive plate. Now they put the plates into an oven and "bake" them for three days at 122°F, just as a housewife puts a cake in the oven for a couple of hours. The baking process produces a considerable gain in speed when the exposures run for an hour or longer.

But for years even the visible red region of the spectrum was hard to



*How to recognize a Supernova. Three centuries ago, absolute magnitudes couldn't be measured; that the star in Ophiuchi was a nova no one questioned—but was it ordinary, or super? The dots represent the brightness observed in 1604 and 1605; the superimposed curve is the recent supernova in IC 4182. These light curves show it was Supernova Ophiuchi.*

photograph in a reasonable length of time. Worse still, there were no commercial emulsions on the market; instead the astronomer had to take a blue-sensitive plate and stain it with a red-sensitive dye. This method often yielded unsatisfactory results in the hands of inexperienced operators, so that the best photographs in the red taken thirty and forty years ago are inferior to those easily available at present.

An example of a problem which had to wait for solution upon the development of fast red sensitive emulsions, is the question of oxygen and water vapor in the atmosphere of Mars. If the atmosphere of Mars contains oxygen and water vapor, then we should be able to detect these gases by the series of absorption lines or bands produced in the red and infrared region of the spectrum by molecules of $O_2$ and OH.* The trouble is that since our own atmosphere contains an abundance of these same molecules, any faint lines produced in the atmosphere of Mars are hidden by the powerful terrestrial absorption bands.

A method of detecting faint oxygen and water vapor lines in the spectrum of Mars has been known since 1867, called the method of lunar comparisons. Because the Moon is devoid of air its light is simply reflected sunlight, unchanged except for absorption suffered in passing through the Earth's atmosphere. But if there is an appreciable amount of oxgyen and water vapor in the atmosphere of Mars, these spectral lines should be

* *Not* $H_2O$.

strengthened relative to the same lines in the Moon. The comparison must, of course, be made when both planets are at the same altitude in the sky. The astronomer points his telescope at the Moon and takes a good hard look at its spectrum. Then as fast as he can he aims his telescope at Mars to see if the lines appear intensified. By thus switching back and forth—which we now know could not possibly have proven anything—several noted astronomers went on record as having established the existence of water vapor in the atmosphere of Mars. Janssen, for example, packed a telescope nine thousand eight hundred feet to the summit of Mount Etna where he spent three days making observations. As a result he confidently reported to the French Academy, "I believe I can announce to you the presence of aqueous vapor in the atmospheres of Mars and Saturn."

(Whatever else Janssen may have been, no one could ever accuse him of being an armchair astronomer. In addition to his one-man expedition to Mount Etna, he also escaped from Paris during the siege of 1870 by means of a balloon in order to observe a total eclipse of the Sun. Incidentally, Janssen was the first person to observe the yellow helium line in the solar spectrum although he had no knowledge of its identity).

In 1909 Mars was scheduled to make an exceptionally close approach to Earth in September. At the last close approach in 1894, Campbell at the Lick Observatory had made visual comparisons between Mars and the Moon without being able to detect the presence of water vapor in the Martian spectrum. With the advent of photography he believed a much more delicate comparison was possible. Like Janssen, Campbell was convinced that the observations should be taken as far above sea level as possible; in fact, he had selected as a site the highest point in the United States, the summit of Mount Whitney with an altitude of fourteen thousand five hundred feet.

As the time of opposition drew near Campbell began to lay his plans. In 1908, accompanied by Dr. C. G. Abbott, the present secretary of the Smithsonian Institution, he made a trip to the proposed site to ascertain conditions there. The journey evidently was harder than Campbell had anticipated, for according to his own account they suffered severely from cold, exposure, and mountain sickness. In fact, it looked so bad that he decided there would be no point in planning observations there for the coming year unless sufficient funds were forthcoming to provide adequate transportation and shelter for a week's stay.

Now it is always hard to raise money for ordinary astronomical investigations that can be conducted at home in comfort, but there is something about an *expedition* that loosens the purse strings of the wealthy, and so it proved in this case. The money was raised and

the observations made as planned under practically ideal conditions. The results obtained with the red-sensitive plates agreed with those made visually in 1894; namely, that the quantity of water vapor in the atmosphere of Mars was too small to be detected by the instruments employed.

After all the agonizing effort that has been expended by Campbell and others in trying to detect water vapor on Mars by comparison with the Moon it is sad to relate that the method has been abandoned in favor of another which is much more delicate. At certain positions in their orbits, Mars and the Earth may approach each other as fast as ten miles per second. While this is merely loafing as comets go, it is sufficient for the purpose at hand which is to *produce a measurable Doppler shift in the water vapor lines in the spectrum of Mars relative to these lines in the spectrum of the Earth's atmosphere.* The idea seems to have occurred to both Lowell and Campbell independently. Its advantage over the method of lunar comparisons is that we measure a *position*, which is something capable of determination with a high degree of precision; in place of an *intensity*, which is an uncertain quantity subject to all sorts of obscure errors.

Development of high speed infrared sensitive plates has enabled this test to be applied several times during the last decade with powerful instruments. The most recent determination was made with the 100-inch on October 29, 1943 when Mars was approaching opposition December 1. The exposures were made on Eastman IV-N plates, an emulsion of high contrast and low granulation very sensitive to the near infrared. Despite the large scale and high quality of the plates, however, measurements failed to reveal the slightest displacement in the position of Earth's atmospheric lines such as would have been produced by the disturbing effect of faint Martian lines beneath them. Again we were forced to conclude that at the most there can be but one percent as much oxygen and water vapor in the atmosphere of Mars as in Earth's atmosphere.

Until about twenty years ago the only dye sensitive to the deep infrared was dicyanine, with which the solar spectrum had been photographed out to wave-length 9849. (The limit of sensitivity of the eye is ordinarily somewhere in the neighborhood of 8000, although people differ widely in this respect, some being able to detect "brown" light out as far as 8600. I have always heard that as we grow older our eyes become less sensitive to the violet and more sensitive to the red.) Dicyanine was never very satisfactory, being somewhat uncertain in its action, so that few were able to use it with success.

The development of a new infrared sensitive dye came about in an unusual fashion that illustrates how small the gap really is today between workers even in the most widely separated fields of endeavor.

About 1926 the motion picture in-

dustry was anxious for an emulsion that would enable scenes to be taken during full daylight that looked as if they were taken at night. Now it happens that a scene filmed in deep infrared light gives the impression of having been taken in semidarkness or by moonlight. A considerable saving in money would result if an infrared sensitive emulsion could be found fast enough for motion picture requirements. By 1927 Eastman had created a dye called neocyanine that filled the bill—and at the same time gave astronomers a powerful new tool for probing deep into the comparatively unexplored infrared region.

My introduction to neocyanine came in the summer of 1927 when as an untried assistant I was handed the job of trying to photograph the infrared spectrum of sunspots at the 150-foot sun tower on Mount Wilson. As previously mentioned, the spectrum of the sun itself had already been photographed out to 9849 with dicyanine. But at that time the sunspot spectrum had only been photographed out to about 8200 on a small scale.

First step was to hypersensitize the neocyanine plates by bathing them in a solution of alcohol, ammonia, and water. This was an unwelcome chore as there were so many things that could go wrong in the process. The interval timer, which had to be set in total darkness after the first batch of plates was bathed, was an erratic instrument which frequently went off at the wrong time, or—worse still—failed to go off at all. Plates carefully set in the drying rack later were discovered to have toppled over emulsion side down. Or when the light was turned on the ammoniating solution was seen to be inadequate to cover the plates uniformly.

According to one school of thought the sensitivity of the plate depended to a high degree upon how fast it was dried after bathing. Some went so far as to advocate waving the plate in midair while conveying it from ammoniating bath to drying cabinet, a technique which occasionally resulted in the plate never being exposed at all.

The photographs were taken during June and July, starting soon after sunrise and exposing all day long continuously until near sunset. Three of us worked in shifts keeping the sunspot which appeared about the size of a dime centered properly upon the camera. This meant punching buttons every few seconds that operated the slow-motion controls on the mirrors at the top of the tower.

At the end of the summer as the result of many long and tedious hours of guiding we had some tolerably good photographs of the sunspot spectrum out to 8800, which was about our limit. Some of the plates were seriously fogged which cut down the contrast so that many interesting features were nearly obliterated. On the whole, the results were rather disappointing.

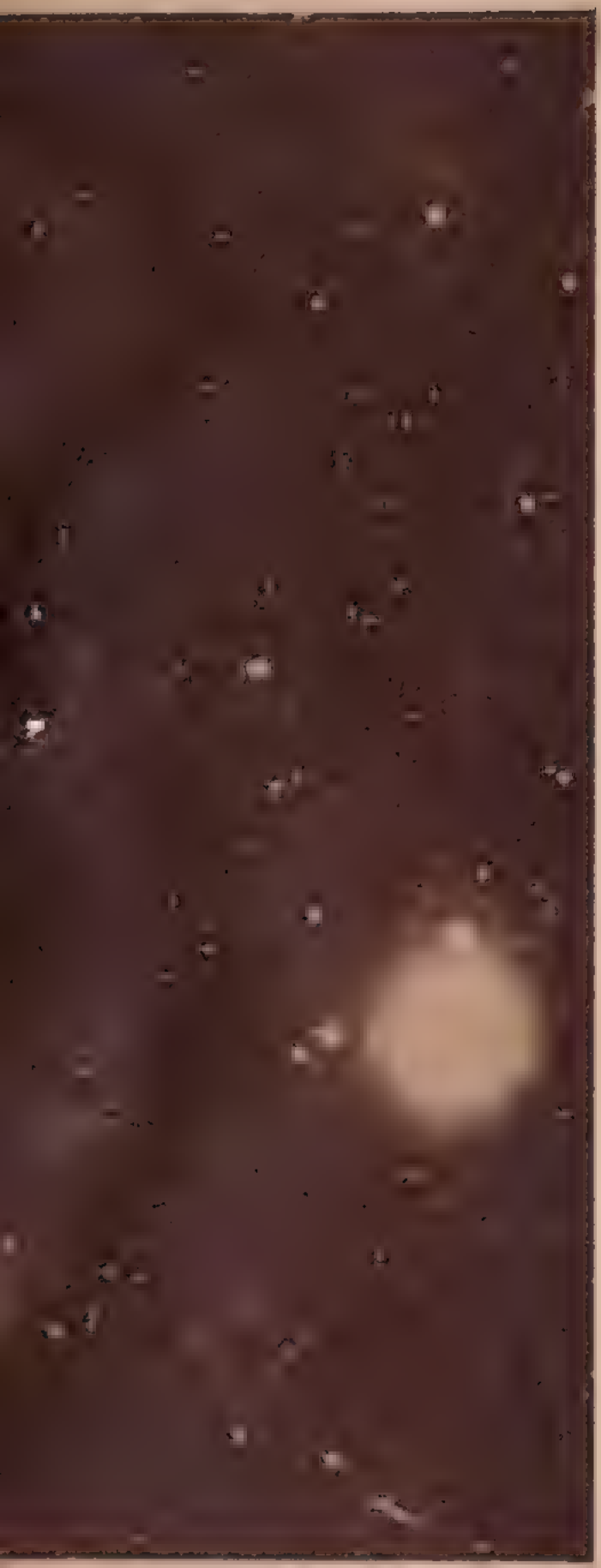
It is interesting to look back upon that summer's work in the light of our present knowledge for it all seems like such a waste of effort. Because if we had waited just a

few years longer we could have gotten vastly better results with a tenth of the effort. About 1933, as I recall, Eastman discovered another dye called zenocyanine which was as superior to neocyanine as neocyanine had been to dicyanine. Whereas with neocyanine, exposures of six hours were necessary to get 8700 at the 150-foot tower, this wave-length could easily be obtained with a 1-Z plate in thirty minutes. And whereas with neocyanine the limit to which the solar spectrum could be photographed was 11,600, with zenocyanine it was possible to push out another 2000 angstroms to 13,500, which is still the present limit for the photographic plate.

One of the immediate results of this extension into the infrared was that it enabled us to state with certainty that several elements are present in the sun which could not be identified before. Thus phosphorus had long been missing from the line-up of elements present in the solar atmosphere. The trouble had been that the strongest lines of phosphorus are miles apart, one group being down in the ultraviolet hidden by the ozone bands of the Earth's atmosphere, and the other out in the Earth's atmosphere, and the other out in the infrared beyond the range of our plates. Not until 1934 when the region from 9100 to 10,600 became easily accessible could phosphorus be added to the list of elements known to exist in the sun.

But the real revolution has come not so much through emulsions sensitive to the far infrared which after all is of little use in astrophysics except in solar spectroscopy, but rather to improvements in emulsions sensitive to the visible red and near infrared regions, until they are comparable with the best blue-sensitive plates. Development of such plates has vastly extended the range of our present instrumental equipment revealing objects hopelessly lost to emulsions blind except to the blue and violet. This is due to the great penetrating power of red light as compared with blue—it doesn't "scatter" so easily—and the fact that many nebulous objects emit certain red rays very strongly due to atoms of hydrogen and ionized nitrogen, which makes them easy to photograph on plates sensitive to these particular colors.

In a recent investigation of the Crab Nebula report in Astounding it was told how photographs in red light had revealed an intricate filamentary structure that was hardly suggested on blue-sensitive plates. By comparing plates taken several decades apart it was found that the nebulosity is expanding at such a rate that when the motion is projected backward a point of explosion is indicated about the year 1100 A.D. A search of old Chinese records showed that a "guest star" had actually appeared in 1054 A.D. so close to the position of the Crab Nebula as to leave no doubt that this weird-looking mass is the remains of an exploded supernova. Thus we know of at least one object in the sky that permits us to check on the state of a bona fide supernova



eight hundred years afterward.

But the remains of one supernova can hardly be relied upon to tell the whole story. It gives us no means of deciding which features are typical of all supernova and which are peculiar only to the Crab Nebula. For example, the rate of expansion of the Crab Nebula of two million nine hundred thousand miles per hour sounds big compared with the speed of even a P-38, but is quite moderate compared with other cosmic velocities. Is this rate of expansion characteristic of the expanding shell of all supernovae? We would also like to know whether the mass ejected during the explosion is of the order of several suns, as appears to be the case with the Crab Nebula. And whether the remnant of a star left behind is always a white dwarf or not.

The only way to answer such questions is by searching regions of the sky where novae were known to have appeared in the past. Since such spectacular outbursts naturally attracted wide attention, they were carefully observed and recorded by astronomers with sufficient accuracy so that the region of search today is not hopelessly large.

One of the best known novae for which reliable records have been preserved is that which flared up in the constellation of Ophiuchus early in October, 1604—Kepler's star, as it is generally called. For years astronomers have examined the faint stars in this region without locating a single one that could be identified as a fossil nova. (Al-

though Kepler's name is associated with this nova his measures of its position were so bad that modern investigators have rejected them entirely in favor of those made by a lesser astronomer, Fabricius.) Chief reason for failure in the past is probably due to the heavy interstellar dust clouds that obscure the Ophiuchus region. Not until suitable red-sensitive plates became available could these obscuring clouds be penetrated and the remnants of the nova revealed after three hundred years.

The very first plate on this field taken in rose-colored visual light with the 100-inch reflector on the night of June 18, 1941, with an exposure of two hours revealed a small patch of nebulosity close to the predicted position.* Measurements showed that the center of the nebulous patch differed from the position derived from Fabricius' records by only about one-sixtieth of the diameter of the full moon. This speaks amazingly well for the accuracy of the old astronomer, especially since the nova first appeared far down in the southwestern sky where it was exceedingly hard to observe.

The nebulosity appears as a broken mass of bright knots and filaments covering a fan-shaped area roughly equal to the size of a large lunar crater. There are indications, however, that this fan-shaped mass represents only the brightest part of a more extended nebula, as faint wisps of nebulosity are scattered over a much larger field.

In ordinary photographic blue light the nebulosity is extremely faint which explains why it was so easily missed before. Unlike the Crab Nebula, there is no strong emission of light of all colors, the main source of luminosity being the red rays of hydrogen and of ionized nitrogen. Otherwise, the spectrum of the cloud closely resembles that of the Crab Nebula, which strengthens the conclusion that the two had the same violent origin.

If there is any lingering doubt the cloud was found to be moving toward Earth with a velocity of two hundred kilometers per second, which translated into more familiar terms is four hundred fifty thousand miles per hour. This is a higher velocity than we should expect for a small galactic nebula in this part of the sky that chanced to be near Kepler's star. But the motion is readily explained if it is attributed to matter ejected by an expanding shell around a central star.

Any estimates of the distance of Kepler's star can at present be regarded as little better than mere guesses. For the Crab Nebula, an accurate value for the distance was obtained by combining its *angular* rate of expansion derived from measures on plates taken several decades apart, with its *linear* radial velocity in miles per second derived from the Doppler shift of spectrum lines. We can obtain the linear radial velocity of the cloud near Kepler's star in a single night. All that is necessary is to get a few

* For the benefit of camera-minded readers, the exposures were made on an Eastman 103E plate behind a Schott RG2 filter. This plate has a sharp maximum of sensitivity at 6400.

good plates of its spectrum. But unfortunately we must wait for at least twenty years to pass before we can measure its angular rate of expansion. Which means that not until 1965 at the earliest can we expect an announcement of the distance of the object.

We know that the nova of 1604 at maximum was about as bright as Jupiter. But lacking a knowledge of its distance we cannot say how it compares in brightness with other novae; that is, we cannot fix its absolute brightness, and say positively that it was a supernova and not an ordinary nova, for example.

In the case of Kepler's star, however, we feel virtually certain that we are dealing with a supernova. The reason we feel so positive is owing to the shape of the light curve. For if we plot the points representing the brightness of Kepler's star as it was recorded in 1604, and then lay on top of these the light curve of a typical supernova that appeared in an extragalactic nebula during August, 1937, the fit is practically perfect. Thus we have two excellent reasons for believing that the Crab Nebula and the nebulosity near Kepler's star are of identical origin: (1) their spectra are very similar, and (2) both were originally supernovae.

As to the stellar remnant—the star that excites the nebulosity to shine—so far it has defied detection. There is a faint star imbedded in a bright patch at the tip of the fan-shaped nebulosity which looks suspicious. It may be nothing but a chance coincidence. But this star will undoubtedly receive further attention in the future, not only because of its position but because it is much whiter than any other star nearby.

We mentioned earlier that the latest triumph for red-sensitive photography is the resolution of the central nucleus of the Andromeda nebula, as well as two neighboring nebulae which so far had always presented a smooth uniform appearance even on the finest plates. The reason now is obvious—the individual stars simply were not bright enough. That is, so-called "early type" spirals *as well as the central nucleus of late type spirals like the Andromeda nebula and our own galaxy*, evidently contain few if any excessively luminous white stars such as the supergiant O's and B's. Neither are there any brilliant supergiant M-type stars present. In fact, the whole distribution of stars with respect to color and brightness is different from that of stars in the region we can easily observe near the sun. In early type island universes and at the center of late type spirals the brightest stars are the yellow and orange giant K stars. And to resolve them it was necessary to make exposures with just the right kind of color sensitive emulsion on nights of fine seeing when the figure of the 100-inch mirror was perfect.*

A plate of Messier 32, the brighter round companion of the Andromeda nebula, was obtained under

* These remarkable photographs were taken by Dr. Walter Baade using an ammoniated Eastman 103E plate behind a Schott RG2 filter.

conditions so nearly ideal that during an exposure of three and one-half hours it was not necessary to focus once. Although the bright central portion of Messier 32 is burned out due to overexposure, the outer part when examined under a microscope is found to have disintegrated into an unbelievable mass of the faintest star images imaginable. This plate was of particular interest because it shows which features indicate the first signs of resolution in this type of nebulae. They are seen to be star chains, formed by accidental grouping of the brightest members of the system. These chains, which are clearly resolved on the red-sensitive plates, appear on blue-sensitive plates only as poorly defined filaments in the otherwise formless structure of the nebula.

The fact that these nebulae can be resolved into stars provides us with a handy criterion for determining whether an early type nebula belongs to one of the so-called "nearer" group of about a dozen within a globe of a million light-years from Earth. We cannot tell merely by looking at a hazy nebulous patch how far away it is. But if it can be resolved into stars on a red-sensitive plate it is one of our nearer neighbors in space.

Using this criterion, two small nebulae long under suspicion were photographed with 103E plates and found to confirm this view. Both systems were clearly resolved into stars.

What makes their resolution significant is that the red photographs reveal them to be a new type of stellar structure, a universe of stars forming a connecting link between the extremes in our pattern of galaxies.

At one end is the type represented by a strong concentration toward a central nucleus shown by the nearly spheroidal elliptical nebulae. At the other is the extremely loose swarm of stars represented by the newly discovered systems in the southern constellations of Sculptor and Fornax. We are accustomed to thinking that all extragalactic nebulae are some sort of spirals. But in 1938 a plate taken at the Boyden Station of the Harvard Observatory in Bloemfontein, South Africa, disclosed a brand-new and unsuspected kind of a galaxy. On plate No. 18005 in the series taken at Harvard since 1893 there appeared a uniform swarm of images just on the limit of visibility. At first the astronomers could not be sure whether they had discovered a new galaxy or somebody's thumbprint imbedded in the emulsion. But later exposures fully confirmed the stellar nature at the images. The unique feature about the Sculptor and Fornax systems is their lack of structure—they resemble a loosely condensed globular cluster but with the dimensions of an island universe.

The two systems just resolved on the red-sensitive plates might be described as slightly elongated giant globular star clusters. There is no definite nucleus and the central region is very similar to that of certain rich globular clusters. But they

cannot be regarded merely as vastly extended star clusters. For the diameter of the smallest elliptical galaxy is about twenty-six hundred light-years, while the very largest star cluster does not exceed three hundred thirty—a gap so big as to separate them definitely into distinct types of cosmic organisms.

Looking ahead it seems probable that in the future astrophysics will be tremendously influenced by the electronic and radio techniques now being applied to war problems. This would appear to be particularly true in the field of infrared spectroscopy.

We may expect postwar observers, either with the coronagraph in full daylight or during eclipses, to pay close attention to the infrared region beyond the reach of photography at wave-length 13,500. It may be that observation of the infrared coronal lines will be the key that unlocks the solution to the whole mystery of why the corona radiates as it does. For example, in 1936 Bernard Lyot working with a coronagraph at the Pic du Midi in the Pyrenees, observed two lines in the solar corona at 10,747 and 10,798. Later these were identified with atoms of iron twelve times ionized (Fe XIII). From this starting point a complete new theory of the corona has been built up which attributes the old coronium of bygone days to atoms of iron, nickel, and calcium ionized from ten to sixteen times. To produce such high-powered ionization it is necessary to postulate a temperature in the sun's upper atmosphere, not of 5000°K as would be supposed, but one of the order of possibly 500,000°K.

Most startling development in the red revolution is the possibility of a return to the technique tried by Sir William Herschel one hundred fifty years ago. Experiments conducted in Belgium in 1937 with an instrument known as the "Evaporograph" show the necessity for some device to supersede the photographic plate if we expect to go much farther into the infrared.

Although new dyes may be discovered more sensitive in the far infrared than zenocyanine which is the best we have at present, it is doubtful if they would be of great value to us. For in this extremely long wave-length region objects at room temperature begin to lose their usual dark aspect. Instead they begin to glow! That is, the heat rays from objects in the room will start to fog the plate and there is little we can do to stop them. It is fortunate that the sensitivity of the eye does not extend much beyond 8000. For if we were able to see just a trifle farther into the infrared, our vision would be dimmed by a permanent disturbing diffused impression of light owing to the emission of radiation at blood temperature in the interior of our eyes.

Even now our deepest infrared sensitive emulsions must be kept on ice or otherwise they will soon become fogged, indicating we are already near the limit of practical use. But up to date, photography has extended our knowledge of the infrared only about an octave, while

it is believed that the whole infrared spectral region covers about nine octaves.

The principle of the Evaporograph is extremely simple. The essential feature consists of an exceedingly thin celluloid membrane covered on one side with a good heat-absorbing substance such as bismuth black soot. On the other side of the membrane there is deposited a thin layer of paraffin oil. This paraffin layer is made so thin that when seen by reflected light it has a vivid color.

Now if infrared rays are focused on the blackened side of the membrane, this spot will become hotter than its surroundings, with the result that the paraffin begins to evaporate on the other side. Result is that the color of the spot begins to change color. The film is exceedingly sensitive to changes in temperature so that various colors can be seen directly or photographed on an ordinary plate if desired. Thus dark spectrum lines being regions of cool absorption are quickly revealed by the evaporation pattern they produce.

Already remarkable indirect photographs have been obtained of various substances far into the infrared: for example, certain spectrum lines of carbon dioxide gas at wavelength 43,000, and of water vapor in the region at 63,000.

But whether astronomers can ever "evaporograph" the solar corona out beyond 20,000 is something that only the future can answer.

THE END.

*HE GOT THE PURPLE HEART...*

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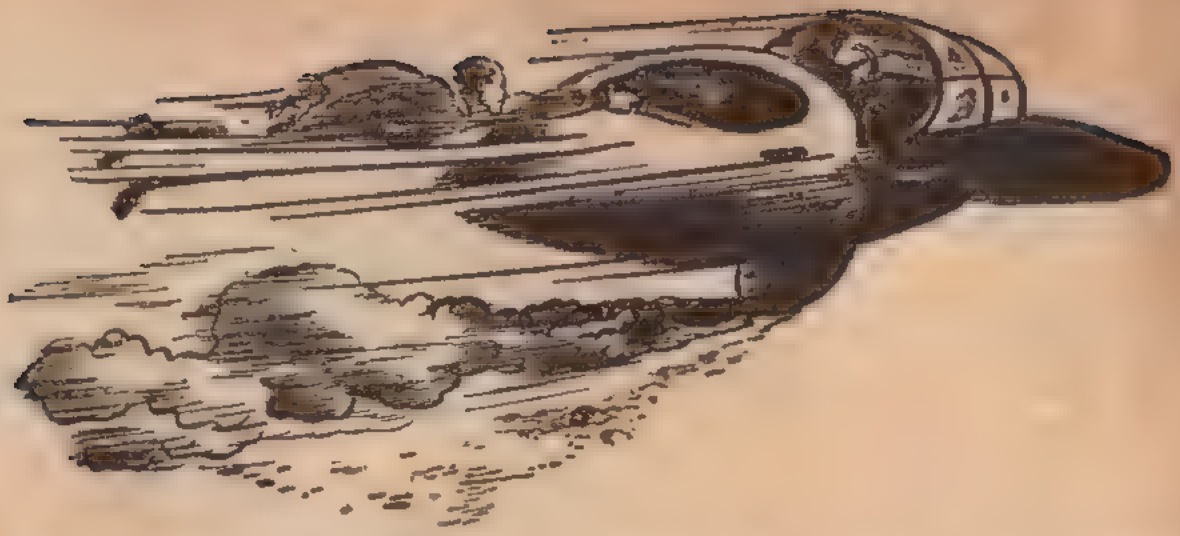

*People like to feel superior. Also they like wealth. Even Martians do. But it takes an inspired and satanic genius to cook up a scheme as malignant as the benevolent poison they brewed—*

Illustrated by Williams

# Gift Horse

## by ROSS ROCKLYNNE

It was the first day of the New Year and the first day of the New Century: January 1, 2701 A.D.

The six men who sat around the square table on the top floor of a skyscraper in Quebec, capital of the Consolidated Western Hemisphere Republics, were tired, worn, blurry-eyed. Their condition was not attributable to a night of carousal, but to one of wresting with the biggest problem they had ever faced.

Raoul de Grafton, chairman, rose and said, "Gentlemen, my wife will be expecting me home for a New Year's dinner. I'm tired and I'm convinced we'll have to tackle this with fresher minds. Who wants to move for an adjournment?"

"I don't," said the biggest, rich-

est, most powerful, most stubborn man in the crowd. He rose.

This man's name was John Rossmore. His energy was undiminished. All through that long night, while the others argued, he had been quiet save for an occasional sarcastic remark. It was estimated that Rossmore controlled a tenth of Earth's resources and industries. The rest of them averaged, apiece, about half of that.

Rossmore said flatly, "We don't move for adjournment until our problem is settled. Let me say this: Each man's opinion is clear-cut, even though the issue has been clouded and clouded again by off-trail issues—such as mercy, and justice, and morals, and let me add, by hypocrisy. Now, Mr. De Grafton: Will you explain briefly and simply the exact purpose of this meeting?"

De Grafton at once became uneasy. None of these men knew where he stood with Rossmore, and what biting remark Rossmore was going to hurl at any of them, any moment. He therefore tried to choose his words with care:

"It is our purpose to utilize the tremendous resources on Mars for the greatest good of the greatest number of people . . . er . . . regardless of how it may affect the Martians."

"Nuts," said Rossmore. "We six men control more wealth than any other six men on Earth. We want to control more wealth before somebody beats us to it. We want to exploit Mars for the greatest good of our already bulging pocketbooks."

The other five men stiffened. Waverly, a rather small man who controlled a rather large oil empire, said coldly, "I resent that."

"Resent ahead. But I fail to see why *you* should resent my statement when some of your statements were infinitely more callous. Wasn't it you who proposed making war on the Martians, exterminating them?"

Waverly was on his feet. "Mr. Chairman, I demand that Mr. Rossmore retract that statement!"

At this point another man rose from his chair. He was middle-aged, his eyes were tired, his shoulders slightly stooped. "If I may be permitted to say something," he said lowly, "may I remark that the retraction of a statement doesn't necessarily erase an evil. I've sinned some in my life, but I think my greatest sin has been committed right in this room."

"Mr. Pearle," said Rossmore coldly. "We aren't discussing religion."

"Mr. Rossmore," said Pearle, "we're discussing human beings—pardon me, Martians—and when you discuss them as impersonally and cruelly as we've been discussing them, we're manufacturing hell, which is on the other side of religion."

Pearle stopped for the moment. He was one of the richest men in the world. He majored in transportation—air lines, trucking, steamships; and now that the spacelanes had been opened up a mere twenty years ago with the first landing on Mars, he was beginning to manufacture spaceships.

He said, just as slowly, "I don't think I care for the trend of this discussion we've had tonight. I don't think I care to fatten my already bulging pocketbook, as Mr. Rossmore sarcastically remarked. I don't think I have the slightest interest any more in exploiting Mars at the expense of anybody. I've done an honest business so far, and I'm to old now to change my ways."

Pearle said simply, "Gentlemen, I'm walking out on the plot. Good night . . . Raoul, you're coming with me?"

De Grafton's face wore a stricken expression. "No," he said in a muffled voice.

"Good night, gentlemen," Pearle repeated and left the room.

There was a silence, while Rossmore's face grew hard.

Waverly sniffed, "Lily-liver." He looked at Rossmore. "I still demand a retraction of that statement."

De Grafton's voice was pained, haunted. He said with an effort, "We'll conduct our business as if Mr. Pearle had not interrupted us with his unwelcome decision. If I recall correctly, Mr. Waverly merely remarked that the . . . ah . . . procedure of forceful belligerency should be employed as a means of securing Martian co-operation. He later on agreed the method had better be discarded because . . . uh . . . bloodshed might result."

"*Might* result?" Rossmore brought his attention back from the door through which Pearle had disappeared. "As a matter of fact, none of us was deterred in his decision because of possible bloodshed—even Pearle, until his so-called conscience began to stir. We didn't agree on Mr. Waverly's euphemistically worded 'forceful belligerency' simply because I showed that it was impractical.

"In the first place, after more than six hundred years without war, people the world over are crazy for peace. They're so tickled to death with the record that they're going to make peace last another century, and another one after that. The craze is self-perpetuating. They'd stop a Marto-Tellurian war before we got started.

"Anyway, war against the Martians wouldn't serve the purpose. Look at the rotten wars the United States of America waged on the Amerindians. The barbarians were almost exterminated and then the very ferocity of the process backfired and laws were made to protect them. Now there are more Amerindians than there were when Ericson discovered America! And liberal legislation has given them a few million square miles of land even we couldn't touch. Just *try* to kill the Martians. In a couple of centuries they'd be springing up like weeds right in the middle of our garden."

De Grafton said heavily, "We wouldn't be here to worry about that."

"No. We wouldn't. We'll be dead. But remember: We aren't men who are talking, we're corporations. Corporations are immortal and as such they've got a perfect

right to plan their lives a thousand years ahead. If they don't, they find they've forfeited their immortality."

Waverly was sitting on his backbone, sneering. "Why don't *you* suggest something? We've mentioned a half-dozen different kinds of legislation for getting around the Martians' fool economic system. You squashed them by pointing out that we couldn't legislate against the Martians unless their body of laws was incorporated into our own. We suggested continuing our present procedure of trying to buy land from individual Martians—"

"By chiseling?"

"We haven't been chiseling!"

"Chiseling! What else would you call it? You take advantage of the fact that Martians are essentially ignorant farmers, peasant-types, with no knowledge of the real, eventual value of their land. You offer them through your agents penny-pinching sums which look pretty good to them . . . . well, never mind. We know now they wouldn't accept no matter what you offered. Not unless the Tjart, the current benevolent ruler, gave them permission."

One of the other men interjected dubiously, "Some of us doubt they need the permission of the Tjart."

"Because," said Rossmore patiently, "none of us has any real insight into the Martian economic system. We have the main facts. We know the population of the planet is roughly nine million. We know they utilize a complex system of irrigation to make their extremely impoverished land crop-bearing at certain seasons. We know that each family possesses a parcel of land which is equal in value to every other parcel; and we know that the whole of these parcels comprise Mars. Because of this system, the population of Mars must remain at an exact level, neither increasing nor decreasing. We know the unit of exchange is based on land-values, which are constant. And we know that by acquiring one parcel of land, we'd automatically cause not only a shift in land-values but in the unit of exchange; and the population would be unbalanced. *Quod erat demonstratum.*

"Doesn't it seem reasonable in the face of all this to assume that our constant failures in land-buying may stem directly from the imperial order of his Imperial Stuff the Tjart?"

Waverly, still simmering, said darkly, "Talk on. You're accomplishing not a thing. All you do is show us why we can't get control of the planet."

Rossmore laughed aloud, a sudden barking sound, and his hand shot out across the table, the index finger transfixing Waverly.

"*That's* what I've been trying to get you to admit: That we *are* after control, so we can exploit its resources. *Now* we're getting some place. Gentlemen, I believe all of us now see that the only way to secure lasting control of Mars is first of all to destroy the economic system, and with that wedge, to exterminate the population.

"Are we agreed on that?"

Once more the men shifted uneasily. De Grafton, with a helpless gesture, "But you said—"

"That I was against exterminating the Martians? Oh, no. No, gentlemen, what I am about to propose now is legal, aboveboard, and, I might add, almost completely moral. You remember I said that corporations, in order to preserve their immortality privileges, must lay plans which consider future centuries? This is such a plan. Let's see how it appeals to you."

Rossmore talked for an hour, and for a half hour more answered questions. Then he sat down, and de Grafton got up. De Grafton said, "Gentlemen, it is my considered opinion that the plan will work. Moreover, I doubt if any man in this room has the pure genius for creating slow murder that Mr. Rossmore exhibits. I presume I am now supposed to call for a vote?"

He smiled. He shoved back his chair. "I'm sorry. I herewith resign as chairman of this group. Who's with me?"

Two more men stood up. One looked directly at Rossmore. "Mr. Rossmore, you can go to hell."

The other man said nothing, but shook his head slowly back and forth. Together the three men left the room, leaving Rossmore and Waverly sitting facing each other.

Neither man moved. Then Waverly smiled a crooked smile. "Which proves that all is not wickedness except us. Rossmore, maybe you and I can swing this thing together?"

Rodney King—this was almost a full hundred years later—leaned against the bulkhead in the gaming room aboard the *Deimos Queen*. The *Deimos Queen* had driven straight down from Pluto without any way-stops, and it was only a matter of a few hours before she docked at Marsport. For which Rodney King was more than glad. As one of the few mining engineers who really knew Pluto, he had spent more time there than was good for his leg. He had been forced to walk with a slight limp under Pluto's one-and-a-half gravities because his right leg was affected by a youthful siege of poliomyelitis, and he was now on his way to Mars because the camp doctor on Pluto had told him Mars' lesser gravity might have a palliative and perhaps a curative influence.

"Know anything about Mars?" the medico had asked.

"Well, no. Except they say it's a pretty rough place."

"You said it. I thought these backwoods planets were the ultimate in hell-and-tarnation until I spent a month on Mars. For a so-called civilized planet, with all the modern advantages, the place certainly lives up to its name. Not that I ever saw anything myself: it's just the stories that leak out. If you stick to the ordinary tourists' routes, see, you'll by-pass the trouble and corruption, but if you don't—"

Rodney had smiled. "Doc, with my leg, I'm a tourist."

Rodney was slightly supporting himself on his cane, now, his completely pleasant and friendly face

studying the feverishly betting men and women at the wheels and boards. The cane was useful. Somewhat melodramatically, the pressure of a thumb on a button in the handle of the cane would release an eight-inch knife blade from the tip. He had never drawn blood with it. Yet it had settled many a potential battle during the four years of his tenure on Pluto.

There were several Martians, both men and women, in the gaming room. At least, people referred to them as men and women for want of better words. They definitely were not *homo sapiens*, although there were not many apparent differences. They had double-lidded eyes — protection against sandstorms? evolutionists wondered— an extra joint in the little finger, forty-three teeth, and, in the right light, little golden dancing spots beneath their singularly Caucasian skin. Besides these few more or less visible differences, interior differences were more numerous, and it was said there were several extra vital organs.

Somehow, however, you could always tell immediately who was a Martian and who wasn't.

Rodney King was more interested in one person in the room that in all the others combined. This was a Martian, a tremendously virile man who filled out his dinner suit to a fault. He had snapping black eyes, a powerful jaw framing his square, strong face, which, for all of that, showed the unmistakable lines and hollows of dissipation. Diamond cufflinks glittered — or, Rodney thought, they might be one of the new gems dug out of Pluto in the last few years.

The Martian was drunk. Yet his deportment was perfect, for whenever, in his labored attempt to keep upright, he brushed against one of the Earth girls standing on either of him, his apologies were brief and to the point. Then he continued with his betting.

Finally he stopped betting, turned and left, weaving in a growing stagger from the gaming room. Rodney suspected the fellow had run through a considerable fortune in the hour he had stood at the betting table. Very possibly it might have been his entire fortune.

Yet the other Martians in the room seemed in one degree or another to have drunk one too many, and, likewise, were throwing money away like water.

A gong sounded, signaling that the landing-spiral had been computed, and Rodney turned abruptly and sought his stateroom where he completed his packing. He felt a measure of excitement at the prospect of seeing Mars for the first time, and, too, there were many aspects about the planet which puzzled him. The planet was to Earth what India had been to the British several hundred years ago: a source of fabulously valuable raw materials. But where the Martians fitted into this picture was simply unknown to most people. There had been very little published. Rodney wondered why.

Little more than an hour later, Rodney emerged from the depot onto a traffic-busy street which was so generously lighted, so completely metropolitan, that the stars in a midnight sky were dimmed.

He stood on a street corner, marveling at the complete Earthliness of the scene. There was an all-night restaurant across the street, and a block farther on he saw a towering monolith which must be the Hotel de Mars. (The 'de' was rather a fancy touch.) Yet, he didn't feel like going directly to the hotel, and he wasn't hungry, so he started wandering up the avenue. Just then a man in a rather worn suit, with a brief case under his arm, and glasses hanging on his thin nose, came up to Rodney and barred his way. Rodney stopped, bemusedly. The man looked at Rodney with an air of concentrated determination.

"You're a human being, aren't you?" he demanded.

"Huh?" Rodney said, "Yes, of course."

"Do you think it's right for Moon-born human beings to call themselves Lunarians instead of Tellurians?"

Inwardly, Rod was frowning. He said politely, "I don't see why they shouldn't call themselves Lunarians if they were born on the Moon."

"Then why," the man cried fiercely, "shouldn't Mars-born human beings have the right to call themselves Martians?"

"Well, I think they should."

"Ah-ha! You're one of us!" Eagerly, the man was diving into his briefcase. "Brother, I'm going to ask you to sign this petition, which will be presented to the Tjart of Mars. Where were you born? Marsport? Fontanaland? Canal City?"

"I was born," said Rod, suspecting he was pricking a bubble, "in a little town outside Quebec, Canada, on the planet Earth."

The man faltered. The light died from his eyes. A wounded expression appeared on his face. With a muttered word, he closed the briefcase, lowered his head and went on past Rod without even a thank you. Rod turned and stood looking after him, his face blank.

"Well, well," he said to himself, and continued his pace up the avenue, trying to figure *that* one out. It seemed to him that anybody looking at him could tell he was a tourist, and had never been on Mars before in his life. To anybody, perhaps, except somebody wearing glasses because he was nearsighted. That, of course, was it.

Rod didn't see much sense in the petition. It seemed to him that if you wanted to call yourself a Martian, you could call yourself a Martian, and who cared?

Two blocks farther up the street, he had his second adventure. He was crossing the street, having decided after all to go back to the all-night restaurant, when somebody going past lurched against him. It was the handsome Martian of the gaming room.

The Martian bowed quickly, and said in a slurred voice, "I humbly beg your pardon," and he held a

card out to Rodney. "My name and address, sir, and if you should feel obliged to hold rancor against me, I will be glad to discuss a duel."

"Well, hardly," laughed Rodney. He took the card, but almost before he stopped speaking, the Martian turned, and staggered across the street with his hatless head down, his big hands jammed deep in his pockets. Blind drunk.

Two single-wheel gyromobiles barely missed him. He stopped in time to keep from being run down by a watertruck. The driver snarled out the window, "Stinking Martian!" And Rodney followed after the Martian, disdaining the overhead escalator. He found himself limping only slightly, and thought he shouldn't have any trouble keeping up with him.

He followed for five blocks. Suddenly the Martian stopped in full stride, raising his magnificent head. He turned quickly and broke into a stumbling run. He darted into a side alley, and Rodney, puzzled, saw three men with hats pulled low over their eyes walk quickly down the street and into the alley after him.

"Oh, oh." Rodney didn't like the looks of it, especially when he got to the alley and saw the three men running. They blurred into the darker shadows, and suddenly Rodney heard a muffled outcry. Rodney broke into a run himself, and reached the melée in time to see a knife coming down. He swept the cane in a wide arc. It caught the knife at the hilt. The knife slammed through the air and tinkled as it hit the alley wall. Rodney pressed the button on the handle of his cane and the eight-inch knife blade zipped out with an audible sound.

The Martian struggled to his feet, and started to plow into the three men. Rodney caught him by the collar and twisted him so he staggered back against the wall.

The three men stood looking at the knifeblade. The one who had been about to kill the Martian looked down at his numbed hand and then up at Rodney. His face was brutal. Yet there was amazement in his eyes.

"Who do you think *you* are?" he croaked. "Robin Hood?"

"Fade," said Rodney.

"Fade yourself, tenderfoot. This isn't any of your business. You're monkeying with something that's bigger and wider than six of you."

But Rodney pushed the cane forward another inch. The man who had spoken looked at Rodney closely, then at the Martian, who had slid down the wall to a sitting position and was sick. "All right, Senzi. There'll be another time—for you and your friend."

The three men turned and walked quickly away.

Rodney pushed the cane down on the alley pavement and the knife forced itself against its springs and went back into place with a click. He helped the Martian—Senzi—to his feet. The man lolled and staggered, and with a strange feeling of exhilaration, Rodney walked him back to the main street. Here he caught a gyro-taxi, and told the

driver to go to the Hotel de Mars. The driver had to get out and help Senzi in.

"Friend of yours?" he panted.

"Well, no. He's drunk, and somebody tried to kill him." Rodney closed the door, and the driver grinned strangely.

"You telling me? They're always drunk and somebody's always trying to kill them."

When they were underway, Rodney leaned forward. "Who'd have it in for him, though?"

The driver looked back in astonishment. Then, "I guess you're new on Mars?"

"I came in on the *Deimos Queen.*"

"Oh, yeah. Well, they were after his inheritance."

"His inheritance? Who's after his inheritance?"

"Some of his cousins, naturally." The driver frowned. "Ya see, it's a pretty complicated deal."

"I guess *so!* In the first place, the men who attacked him weren't his cousins by a long shot. They were human beings."

The driver turned a corner, chose a right-hand dip-down and roared along at seventy miles an hour. The driver shouted, "Don't make any difference. Sometimes they do their own dirty work, but they've all got Guild licenses." The rush and roar of traffic was too much for Rodney to hear the rest of it, and he leaned back in disgust.

Rodney got out of the cab a few moments later at the side entrance of the Hotel de Mars.

"All right now?" the driver demanded as Rodney thrust a bill in his hand. Then he sucked in his breath. "Say, wait a minute. Did the guys you saved this Martian from see you?"

"Well, naturally I—"

The driver hurriedly got back into his cab, looking worried, and drove away. Rodney frowned after him, then shrugged. He slapped Senzi's face lightly, and the Martian's eyes opened. He looked groggily at Rodney. There was a slight phosphorescent greenishness in his eyes, even through the secondary eyelids, which were not open.

"Chin up, now, Senzi. We're going in."

He put his arm under Senzi, and in that manner reached the registration desk. He told the clerk his bags were being sent from the depot and that he had a suite reserved. He signed and started for the elevator after taking the key, but the clerk barred his way, his eyes showing his apprehension.

"I'm sorry, sir, there's a house rule—" He broke off, looking at Senzi.

"He'll be all right," Rodney said. He roughly brushed past. "I'll vouch for him."

He got up to the suite without anybody else stopping him. Senzi was getting like a rag doll. When they reached the couch, he dropped to a sitting position, then lolled. Around him hovered an aura of alcoholic fumes. He was actually stinking drunk. Rodney pressed the deskbutton on the house video and ordered strong black coffee. But when the coffee came, Senzi was dead to the world and Rodney

couldn't shake him awake. He made a disgusted sound in his throat, let the coffee stand, took a shower, and went to bed. He lay in the dark, trying to figure himself out. He suspected he was embroiled in something that wasn't exactly healthy. Why had he? But he knew. A sort of diabolical curiosity, like a devil in his soul.

He awoke in the middle of the night.

"So they wanna be Martians, huh! So they wanna be Martians!"

It was Senzi. He was stumbling around in the dark. Something crashed. He was talking in a loud voice. Hurriedly Rodney left the bedroom, waved his hand through the light-activator. Senzi swung around toward him, his four-in-hand hanging loose from his strong pulsing throat.

"So you wanna be a Martian, huh!" he roared and charged Rodney, but it was nothing to trip him. Senzi looked up at him with definite distaste.

"Foolish human beings," he muttered. "Foolish, foolish, foolish human beings."

"Oh, I don't know," Rod said mildly. He offered Senzi his hand and Senzi took it.

"Suckers," he said scornfully as Rod pulled him erect. "Suckers, to use the human idiom. Only now you're catching on and you all wanna be Martians."

He began rubbing his black-haired head dazedly. Rod led him to a chair and forced him into it. Then he sat down opposite the Martian, regarding him with frownlines gathered between his rather wide-set, pleasant eyes. Senzi bolstered his chin in his palms, muttering to himself.

Rod said cautiously, "I don't think *I'd* want to be a Martian, Senzi. And I can't remember any other human being who wants to be a Martian."

Except, he thought, the goon who had accosted him on the street with a petition.

Senzi said, "They wanna *call* themselves Martians. Wising up. Next step is to kick us out. No, sir. Tjart won't stand for it. Told me so himself. Earthmen made suckers out of themselves, let 'em keep on being suckers."

"They want to kick you out?" Rod was patient. "Off the planet? How come they want to call themselves Martians, Senzi?"

Suddenly he was recalling something from deep in his memory. Maybe just a little item in a newspaper somewhere that had made no impression on him at the time. Mars-born human beings on Mars, it was said, were agitating for the right to call themselves Martians. No reasons given.

Senzi muttered for a few moments in an *outre* language. He brought his head up. "You know why," he scowled. "They envy us. Richest race in the universe. Money to burn. Jealous of us because we had the brains to make a good deal. They realize their own inferiority. That's why. Call them-

selves Martians and they'll figure they're our equals."

"I think you're off the track, Senzi."

The Martian for the first time seemed to realize what he had said, and to a human being. He rose stiffly, reached into an inside pocket and drew out a card. "I humbly beg your pardon. If I have offended you—"

Rod came quietly to his feet, took the card, and snapped it twirling across the room. The mild pleasantness was gone from his eyes. "Senzi," he said, "you're right you've offended me, principly because I've already been offered one duel from you this evening!"

He regretted the burst of temper just as quickly. "Senzi, let's both just sit down and behave. And don't sling me the heavy melodrama. Do you always go around suggesting duels to people whenever you look at them cross-eyed?"

Senzi shrugged and sat down with elaborate care. "It's the system we live under. The old Code has been revived. There is a glorious freedom of action among Martians which has not been fashionable in over two thousand years. Now the suckers realize—" He stopped, broke into a half-startled, half-sheepish grin. It was apparent he had almost reached sobriety. Rod chose the opportunity to light himself a cigarette, and belatedly, to offer Senzi one. Senzi took it, inhaled with pleasure, and finally told Rod that perhaps some coffee—?

After he'd ordered it, Rod leaned forward, transfixing Senzi's greenish eyes with his own mild brown ones.

"You remember I saved your life this evening, Senzi?" he demanded.

"I do indeed!"

"And you don't think I saved your life because I wanted your favor as a superior being?"

Senzi laughed nervously. "When I speak of human beings, I refer to those who spend their lives on Mars. And it's apparent you're ignorant of Mars and Martian ways entirely."

"Why?"

"Well—because you dared to save my life."

"And that's exactly what I'm getting at. I think that by saving your life, I've imperiled my own. Is that true?"

"It's true," Senzi said, sadly, and he radiated a complete lack of hope. "My cousin, whichever one is after me, will have to pay the assassins a double fee because my cousin did not tell them I would have protection. That he didn't know I had protection makes no difference. In addition to the regular fee, he'll have to add another fee to dispose of my protector. That's you. Otherwise the assassins won't take over the account. Understand?"

"No."

Senzi's eyes sparkled. "Come to think of it," he exclaimed, leaping to his feet, "perhaps I can have my cousin assassinated before he gives the assassins new instructions." Then the light died from his face. He sat down, discouraged. He said hopelessly, "I don't know which cousin it is."

The coffee came. Almost at the same time, Rodney noticed that it was almost complete daylight outside. There were signs of renewed activity on the streets. Rodney drained a cup of coffee and said grimly, "Senzi, in my own interests, I've got to learn a few things about Mars. You're the only sounding-board I've got. So, until I'm either free of this mess or dead, I'm going to trail along with you."

"It will be a pleasure," said Senzi, face lighting with what seemed a genuine enthusiasm. "I'll tell you what. The Tjart has invited me to spend the week with him at his estate. You go with me. They've got dueling ranges—"

"Thanks—for the invitation, not the duels. So you know the Tjart."

Senzi waved a casual hand, shrugging. "We are related. Chances are I'll be the next Tjart if I stay in his favor."

"Is that so! What about his sons?"

"Dead. Either duels or assassins. I happen to be his favorite nephew."

Rodney lit another cigarette, feeling a trifle giddy. But he allowed himself to be thrown off balance for that second, no more. He launched another attack. "You say the Tjart is strictly against allowing Mars-born human beings to call themselves Martians. Why?"

Senzi crossed his legs and frowningly swirled coffee in the cup. "It is my understanding," he said, as if not sure of himself, "that the faction which urges it—and almost all human beings on Mars belong to it—feel that equality with Martians is much to be desired. Human beings have to work. Martians don't—such a thing is unheard of. That seems to be a natural basis for jealousy."

Rodney shifted impatiently in his chair, his eyes showing his disbelief. "But that's utter nonsense. It's the kind of thing a scandal sheet, serving an outside interest, might print. There's a political implication in this refusal to allow human beings born here to refer to themselves legally as Martians. You're sure," he said, struck by a sudden thought, "that the Earth government hasn't brought pressure to bear on the Tjart?"

Senzi looked up. "That," he said, "is a possibility."

Rodney dragged up a footstool and spread his legs out. His mind was working full blast. It was absolutely dumbfounding. He was literally discovering a new civilization, a new code of ideas, a strange network of Marto-human relations which, to his recollection, completely failed to appear in the newspapers, at least the more widely circulated ones. Who owned the newspapers? He ran down the list of chains. Transplanetary Glassworks—one of the biggest companies on Mars—was either connected with thirty of the biggest newspapers in a subsidiary manner or else was one of their biggest advertisers. And there were other companies which either owned, or were owned by, the big news distributors.

"Maybe I get it, Senzi. Listen to this: Mars is considered a colony of the United World Government—

that's Earth. So are most of the other planets, except the Moon, which secured its independence ten years ago. As I recall it, the politicians yowled to high heaven when the Moon was let go. Maybe they're attacking Martian ideas of independence at the roots."

"That may be so," Senzi said politely, and it was apparent that he was not following the line of reasoning; more, had lost interest. He looked at his single-handed fingerwatch. "Perhaps we can make the early morning monorail to my uncle's oasis, Mr.—?"

"King. Rodney King. But call me Rodney, please. Now just a minute!" Rodney leaned forward, his eyes intense on nothing, although he was apparently looking at the rug, "I think that's it, Senzi. That has to be it. No matter what the surface reasons are, there's a cunning psychological idea at the back of it. Look what happened to the English colonists who settled in America. They started calling themselves Americans. Look at the Canadians. The Australians, who couldn't stand to be called colonials. The Filipinos. The Mexicans. The minute they identified themselves with a common name, they unified themselves. They began yipping for independence. Now people who were born on Mars want to call themselves Martians—"

Senzi laughed unexpectedly. Rodney looked up, startled. He had really been talking to himself. Senzi said, "I took a course in Earth history. Your facts may not be accurate, but the idea is a good one. It seems impossible that somebody hasn't thought of it."

Rodney laughed, and rose, stretching. "Take my word for it, somebody has thought of it. The people to whose interest it is to keep Mars an Earth colony. O.K., Senzi. You want to take a shower before we shove off?"

The monorail train zipped away from the outskirts of Marsport, and suddenly was inclosed by the colorful glory of what might be described as a fertile desert. This was an equatorial climate and the desert plants were in full bloom. There were trees, shrubs, and crawling vines. Most of them were unfamiliar to Rodney King, but then again there were many that he recognized. These were ocotillo, yucca, prickly pear, giant sahuara, Joshua trees, pepper trees, and the ordinary varieties of cactus and succulentia. They had been imported decades ago from Earth. Indeed, it was thought that sooner or later they would crowd the Martian variety of vegetation off the planet. The reasons for this were obvious. Water was being brought from Venus in ever-increasing quantities. And there were at least three air-manufacturing plants on the planet which were steadily increasing the atmospheric pressure. In the last fifty years it had already been raised five pounds to the square inch. Sooner or later, there would be a climate roughly similar to that of Earth. Whether or not this was good from the Martian standpoint, Rodney didn't know. Yet the very

gradualness of the change was apparently allowing the Martians to adapt themselves to it. Senzi, at any rate, appeared to be a thoroughly healthy specimen.

Ever since he had taken his seat, Rodney had had a gnawing sense of nervousness. All the Martians on the train had been herded into the rear car. They now filled all except five or six seats. When Rodney had explained to the conductor that he was traveling with Senzi, the conductor had looked at him as if he were crazy, and suggested he sit in one of the forward cars with the human beings. Rodney had spurned the offer somewhat curtly.

"I don't get it!" he exclaimed, as soon as the whir of the overhead wheels made his voice audible only to Senzi. He had turned his head in jerky movements, looking at the other Martians, men, women and children. "This looks to me like discrimination, Senzi!"

Senzi, completely sober and looking like a fashion plate, betrayed his own nervousness. His hand crept inside his coat several times, and Rodney realized with a shock that he was probably carrying a gun. He answered after a moment, almost absently.

"Perhaps it does seem strange to a person new on Mars, Rod. But you know how it is. When you're trained in these things from childhood up, you can't help yourself. I myself have been very liberal in the matter, but I find it better to adhere to the conventions. We do discriminate against human beings, but I suppose if we mingled with them, sooner or later they'd come to resent that, too."

"*You* discriminate against *them!*" Rodney's mouth fell open ludicrously.

"Well, after all, it is our planet. And there've been some very advanced scientific studies made of the differences between human beings and Martians which indicate we might be an evolutionary step ahead of them. Present personalities excepted," he added hastily. Impulsively, he dropped his big hand on Rodney's forearm. "Forgive me if I seem outspoken, but you admit that I'm your only sounding board in Martian matters."

"Oh, that's quite all right." Rod had relaxed, drumming exasperatedly with his fingers. At last he said quietly, "Senzi, how many human beings are there on Mars?"

"About . . . well, I don't keep up with the census, but perhaps ten or fifteen million."

"How many Martians?"

Senzi frowned. "A million, I'd say."

"And it's your belief that this planet belongs to you Martians?"

Senzi nodded definitely. "It is. I don't completely understand the various legal ramifications, but the whole planet is under the control of Earth corporations only by virtue of a sixty-nine year lease. The lease can then be renewed, unless we Martians should choose to break the lease by paying a sum equal to ten percent of the original rental plus the cost of the improvements on the land. As I recall it, it was a very

foolish deal, as far as the Earthmen are concerned, because the original amount they paid us, plus the equal amount paid to each new generation, far overshadows any possible profit the planet has actually given the corporations so far. And the joker is that as soon as Mars does begin to show a profit, we can lay plans to buy the lease at the end of a sixty-nine-year period—the year being a Martian year, of course." He looked amusedly down at Rodney, as if he were enjoying himself.

Rodney lighted a cigarette with a jerky movement and shook his head savagely. "It doesn't sound right, somehow, Senzi! Earthmen aren't suckers, particularly corporations. It's my belief they knew what they were doing. What did you mean by saying that an equal amount is paid to each new generation?"

"An amount equal to that paid to the original owners of each parcel of land," Senzi explained. "The lease on each parcel of land was taken up by what amounts to about a million universal credit units—we'll say it's million for convenience. This million univers belonged to the Martians who owned the land. Each of his children, when they reached the legal age of ten Martian years, had an additional million univers split between them—it amounted to the second payment from the corporations. Then the next generation—stemming from the original owners—had a third payment of a million univers to divide. And so on down. We call these payments our inheritance. Although we also inherit money from our parents in equal amounts."

Rodney felt a chill in his brain. There was an arithmetic here that was diabolical. How, he couldn't yet decide. Yet, if he had time to mull that over, to look into it a little more deeply, including all outside implications and maybe knowledge that he didn't yet have, he'd come up with an answer that was filthy in its utter inhumaneness. He held himself rigid, not daring to say what was in his mind. He turned his eyes to the desert landscape, and tried to imagine what Mars had been like a hundred years ago, when Earthmen had just landed on the planet. Martians managed to survive at that time by means of irrigation from the polar regions. They had been farmers, agriculturists—somewhat of a paradox. Yet it was easy to imagine that their produce had been of a dehydrated type, and that Martians were accustomed to that type of fare. They had been ignorant, poverty-stricken, undoubtedly. Now, a hundred years later, they actually were the richest race in the Solar System. But Rodney King began to wonder if they hadn't retained, or enlarged upon, their ignorance. In some respects, Senzi's outlook reflected an abysmal ignorance, an inability to look deeper than the superficial or the apparent. Were the rest of his race caught in that same net?

His thoughts were interrupted. The monorail jolted, the wheels grated upon the overhead rail from

which the train suspended itself, and then there was a series of jerks and a long, sustained squeal as the entire series of cars came to a stop.

Before anybody in the car could show a reaction, the conductor shoved open the sliding doors, his face paste-white.

"G-gentlemen," he stuttered hoarsely, "we've b-been stopped. We've been given permission to go ahead if we detach the rear car. In accordance with provision 60A, item 9a of the Marto-Tellurian Code of Laws, as signed in perpetuity by Tjart XXIV, a public carrier of human ownership waives responsibility for the safety of Martians who are present as passengers on aforesaid public carrier," and he slammed the doors and disappeared.

Instantly, every Martian in the car was on his feet. Senzi flicked away from the seat, darted up the aisle and wrenched hard at the knob of the closed door. It didn't open. He turned, his expression superbly controlled. The Martians broke into exclamations, orderly protestations in their own language. Not one of them lost his head. Senzi came back to the seat, shoving other Martians out of the way. He wrapped a handkerchief around his fist and broke out the window glass with a muted crash. He leaned far out, part of his weight on Rodney.

"Hey!" Rodney said weakly. "What is it?"

There was a bump, a jerk, a tooting whistle. There was a vibrating sound as wheels went into motion on the overhead track. The whirring sound diminished in volume. The car containing the Martians swung slightly, pendulum-wise.

Senzi was definitely swearing. He brought his head back, panting slightly. "They've done it. Gone away and left us. It's too bad. They're after somebody in the car. Probably us."

*"Us?"*

A wry humor showed on Senzi's smooth face as he looked at Rodney. "Yes, Rod. Remember they were on my track." He said hastily, "But perhaps it's someone else."

"But why did they go away and leave us?" Rodney exploded.

"Because the assassins stopped the train and gave the engineer orders. Don't worry, the engineer did what his company tells him to do in cases like this. And after all, you can't blame them."

"Can't *blame* them?" Rodney said in amazement. "What kind of a planet is this, anyway? The public carrier is always responsible for the safety of its passengers. At least in any decent place. If this sort of thing happens very frequently, why don't they have armed guards stationed in the cars?"

Senzi looked perturbed. "This must be very different from what you're accustomed to," he said uneasily. "But the Assassins Guild is strictly a Martian matter. It's semilegal. The transportation companies don't feel that they should mix into our affairs. For instance, if the engineer had refused to stop, the assassins would have felt they had a perfect right to fire on him and any other human being. Then

the engineer would have lost his job."

"O.K., O.K." Rodney snarled. "In about ten minutes, if things keep on going in the ordained rut, you'll lose your ability to talk completely, and so will I. Got an extra gun?"

"I'll see if I can't borrow one," Senzi said doubtfully.

He got up and approached the nearest Martian. The Martian shook his head vehemently. Senzi approached a few more with the same result. He returned. "It's impossible. They all feel the assassins may be after them. I only have one gun myself. Perhaps you can use your cane."

Rodney made a sound in his throat. He didn't feel in a particularly pleasant frame of mind. Wonderful. So he was supposed to sit here until the assassins came. He got halfway to his feet, leaning on the back of the seat to keep himself slantingly erect. He looked over the passengers. One and all they were a tense, uneasy bunch. There were half a dozen women. Two of these held babies.

The strange thing about this scene was that the Martians plainly were not intending to band together. Each person became a separate individual, wary of his neighbor. Each person was standing alone in the car, waiting his doom, and refusing to get tangled up in anybody else's.

Rodney brushed by Senzi with a muttered word. He forced his way through the Martians blocking the aisle. They hardly seemed to notice him. He presumed the assassins would attempt to enter the car by the only door, in front. He stood in the corner, to one side of the door.

Almost before he got settled, something clanged against the other side of the door, as if the lock were being struck with an instrument.

The monorail car was about twenty feet above the ground. The circumstances were so fantastic to Rodney that he fully expected the assassins must have ascended to the car via some superscientific device. It would be in keeping.

The door slid open. There was quiet. Then a large, chunky individual with a black bag over his head stepped a few inches into the car. His head turned from side to side, and finally the eyeholes rested on Rodney. Rodney gave glance for glance, as an impersonal malevolence flooded him.

The man spoke, huskily. "What are you doing here?"

"I don't think that's any of your business," Rod said flatly.

"You should have been in one of the front cars with the other human beings."

"I don't see that it's any of your concern what I should or shouldn't do."

The eyeholes rested on him. The voice spoke amusedly. "You aren't dry behind the ears yet, sonny."

The assassin seemed to completely lose interest in Rodney at that point, and he cleared his throat, reaching into his pocket to draw out a folded paper. The paper

crackled clearly as he opened it.

"I have here," he announced, "a Guild warrant for the detention of two persons occupying this car."

Rodney caught Senzi's worried, strained glance. Senzi's arms hung loosely at his side. He, nor any of the others, showed any intention of protecting themselves. Not while they were still in the car, anyway.

Rodney's eyes fell to the gun strapped to the hooded man's hip. He looked through the open door and saw that a mere ladder led from the sandy floor of the desert to the coupling of the car. Standing with one foot on the coupling was another man, hooded also, and, still on the ladder, a companion.

The man holding the warrant now spoke again:

"Quar-El 'Tain and Mist Orano —will you please step forward?"

Rodney felt absolutely no relief at the reprieve. It was different with Senzi, whose worried frown cleared like magic. He grinned at Rodney as if in congratulation.

Everybody in the car, those whose names had not been called, that is, showed a tremendous relief. They began looking around for the owners of the names, and two Martians, faces stony-hard, eyes straight out front, moved forward. Martians almost fell over getting out of their way.

One was a man. He was making an enormous effort to keep his face proud, under control. He was succeeding. But the girl, who might have been twenty Earth-years old, was cracking. Whatever traditions the ceremony of death demanded, she was forgetting them. She was shaking. Her lower lip was quivering. Her dark eyes began to overflow. She would probably have to be helped out of the car.

Rodney King felt that this approached the height of something. At any rate, he'd seen just about all he could stand. He sought out Senzi's eyes irately, but Senzi made pleading motions, shaking his head.

"O.K.," Rod said under his breath. He turned back to the eyeholes, reached forward and took the gun from the man's holster. He held the gun on the man for three seconds.

The man turned toward him again. "Well, well," he said. "This must be a little joke. What's on your mind, sonny? Neither of these Martians has a protector. Not in the contract I read, anyway. I'll trouble you for the gun."

He held out his gloved hand. He wiggled his fingers impatiently and Rodney shoved the gun forward, to make sure he couldn't miss. The gun made a slapping sound. A beam as fine and straight as tautened filament wire stretched from the bore of the gun to a spot over the man's heart. A black, charred spot appeared instantly in that area and the man as instantly fell.

Rodney stepped to the door and shot the man standing on the coupling. The man had his gun out but he clutched at his throat as he was hit, fell straight back and plunged out of sight down to the floor of the desert. The assassin

standing on the ladder yelled hoarsely, and, with his gun out, was in a fair position to drop Rodney in his tracks. Rodney shot at the gun. The gun turned blue and fried two of the man's fingers away before it exploded. Then he was screaming and sliding, half falling down the ladder.

Rodney kicked the ladder straight out. The man fell ten feet, lay in a huddle on the ground.

Twice Rodney fired, but the distance was too great for him. He saw the assassin come to his feet and scuttle toward a gyromobile some thirty feet away. Rodney threw his cane overboard, hung from the coupling and dropped fourteen feet. He scooped up the cane, feeling nothing but an anxiety that the man would get away.

He reached the gyromobile just as the assassin got it started. It almost jerked Rodney's arm off, but he hung on grimly as it accelerated. The gyromobile didn't have a top, and Rodney's hold was not substantial, since only one arm was hooked over the rear seat. His legs streamed out behind him.

The assassin saw him in the rear-view mirror. He headed straight out into the desert, zig-zagging, bouncing up and down sand dunes, trying to dislodge an unwelcome passenger. Wind streamed tears out of Rodney's eyes. It was all he could do to hang on. Stupidly, he finally realized that his awkward position was due to the cane, which he was holding in his left hand. Regretfully, he dropped it. Several minutes had passed. With his left hand free, he could get into the car.

He made it after several more minutes. The car swerved brutally. Rodney came down in a tangle. He got up, tried to aim the gun and missed. He worked his way forward, stood over the driver. The driver cramped the wheel hard. Rodney felt himself flying through the air. He landed on his bad leg. He skewed around, came down hard, and powdered sand swirled around him. Vaguely he saw the gyromobile twenty feet away, poised on the tip of a sand dune. It fell over backward, righted itself, moved a few feet forward on its single wheel and then quietly stopped. The silence of the desert clamped down.

After a while Rodney moved. Needles were dancing around in his leg. He stepped up to the car and saw that the driver's neck was broken. He sank slowly to the sand, cross-legged, was one with the desert for a long moment. Very quietly, he slipped his hand inside his coat and lighted a cigarette. It was there Senzi, alone, found him a half hour later.

Senzi did all the talking, after handing Rodney his cane. He was excited. Rodney merely looked at him. Another train had come by a few moments after Senzi dropped from the car and started into the desert, following the gyromobile track. It had pushed the abandoned car ahead of it with hardly more than a brief stop.

"But, Rod," he finished, peering

down at Rodney as if terrifically puzzled, "I must confess I wish you hadn't done it. You've no idea how foolish it was. The Assassin's Guild can now complain to the human authorities in Marsport and might possibly be able to have you indicted for murder."

Rodney looked at him until Senzi grew uncomfortable, Rodney said quietly, "I have to congratulate myself. I'm actually acquiring an instinct concerning these matters. Having killed one of the assassins, I intuitively felt I had to kill the others. Now there's nobody to snitch. Except the Martians, of course."

"Oh! *They* won't say anything!"

"Well, now, that's right nice of them! I should feel particularly grateful to the Martians whose lives I saved. Maybe I should approach them with a bribe or something so they'll be sure to keep their mouths shut."

"I'm sure I don't understand what you're talking about," Senzi said stiffly.

"Skip it! That's the trouble. You don't understand anything. You and your people are so busy crawling around in the muck of your own inflated egos that you've got a completely two-dimension viewpoint. For instance, the business of herding all the Martians into one car. You choose to believe you Martians prefer it that way, in order to avoid contamination from human beings. As a matter of fact, I think it's the other way around. Human beings probably can't stand your insufferable 'code' or whatever it is. Your complete boorishness and selfishness—"

"Rod!"

Rod lit another cigarette, exhaled, his eyes moodily following the endless acres of brilliant tropic foliage. "Protest if you want to, Senzi. Challenge me to a duel, which I wouldn't bother to accept, by the way. I'm not insulting you personally. It's your whole race, the whole million of you. You know, I'm an Earthman, and for almost seven hundred years we haven't had any war. We've even got homicide almost licked. That's the tradition I've been brought up in. You get to be proud of it. That's the reason something in me rebels at the way you Martians have been letting yourself get taken in."

"*We've* been taken in!" Senzi exclaimed in amazement. "Why, Rod, this is absolutely silly. You're completely at sea. The historical implications of the contract entered into by the then-Tjart *prove* that the human beings concerned didn't have the remotest idea of what a poor deal they made. Ask anybody—any Martian, any Earthman. Don't ask anybody—just look at us. We're rich, we live like kings, we—"

He was talking excitedly, waving his hands.

Rod said, interrupting, and paying no attention to Senzi's frantic speech, "Senzi, I've had my share of hard times. I've had pain. I went to bed for a whole year and had nothing but pain. I hate to see how disunified you people are, the needless misery you inflict on

each other. I hate to see people trampled on—because I can understand pain. That Martian girl on the train, for instance. Somebody was having her murdered—some cousin—because her share of that so-called 'inheritance' would have been divided among the remaining cousins. In other words, somebody had gambled or drunk away his money and needed more."

His teeth came together. He looked sidewise at the Martian. "Senzi, why did you stand there perfectly willing to allow her to be led away to the butcher's block?"

"But Rod, I wasn't perfectly willing!"

"You were."

"I wasn't!"

Rod looked at him. "You were, Senzi," he said quietly.

The small muscles around Senzi's mouth and jaw and nose became hard. His eyes became ferocious. "I don't care to hear any more about this," he grated.

Rodney laughed. "Probably not, and it's a good sign. It means your conscience is stirring."

"I have nothing," said Senzi blackly, "to stir my conscience. We act according to our own lights. We've never asked Earthmen to interfere in our affairs, nor have we interfered in theirs."

Rod got up and walked around, trying out his leg with the help of the cane. It bothered him hardly at all. The fall had not seemed to hurt it. As he walked he talked, most of his attention on the leg. "You've never asked Earthmen to interfere in your affair, Senzi, but unfortunately they have. They're interefering right now. It's perfectly obvious to me that your whole way of life is a direct result of the intervention of Earthmen in your affairs. It's not you who's responsible for all this killing. It's they. It's so ridiculously obvious it's silly. And it sounds like a plot that was hatched decades ago and is working out exactly as planned. Senzi, how many Martians were there before Earthmen landed on Mars?"

He looked up quizzically.

Senzi's nostrils were distended, his fists still clenched. He was speechless with some kind of rage. Rod didn't bother to find out which particular statement of his had rubbed Senzi the wrong way. He said softly, "You probably don't even know. But I'll tell you. It was ten or fifteen, perhaps twenty millions. The exact figures don't matter. But, now, a century later, there are only a million Martians left. And at the rate you're going, it'll take just about a quarter of a century more before there aren't any Martians at all."

He rubbed at his chin thoughtfully, giving a patronizing impression of doing some highly involved figuring. "Let's see now, Senzi. The corporations' lease on this planet runs for sixty-nine Martians years — one-hundred-forty Earth-years roughly. That means that by the time the Martians are legally entitled to possess their land again —provided they have any money left to buy the improvements on said land, which they won't—there won't

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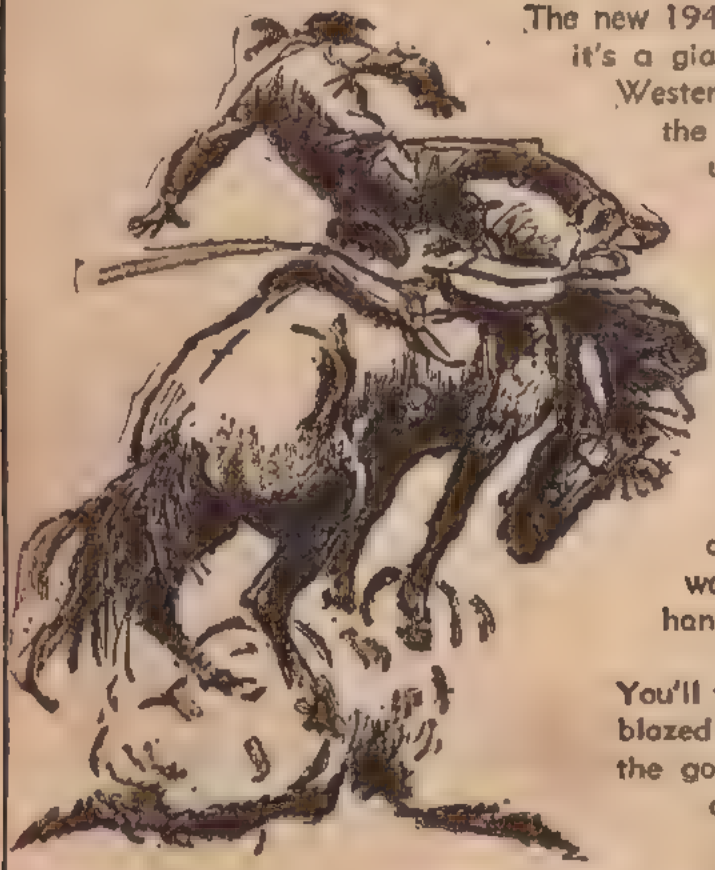

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be any Martians left. They'll have killed themselves off.

"I wonder who revived the Assassin's Guild, Senzi? Maybe it was the same genius who thought up this whole long-range plan. The genius who offered fabulous sums for leasing privileges. I can imagine that the Tjart who approved the final plan must have been completely bowled over by such munificence. Then, on top of that, to offer an equal sum to each new generation—well! I guess the Tjart thought the Earthmen were pretty swell fellows—or else suckers. Probably suckers. The Tjart snatched up the offer, and being no dope himself, made provisions which would allow the Martians to get complete possession of the planet again. But that Tjart probably didn't figure on the legalization of the Assassin's Guild, nor counted on the fact that the continued payments to be divided among each new generation would provide the necessary 'motive for murder.' He didn't think of it. But the Earthmen did.

"Canny Earthmen, eh? They made the Martians the richest race in the Solar System. Suckers. The whole purpose of the plan was to curtail population. The fewer children a Martian had the more money there'd be to spread amongst them. And the more money they had, the more likely they were to dissipate. The more they dissipated, the more money they spent and gambled away and it all came back to the coffers of the Earthmen in the end. Then they went out and had another cousin killed.

"So, Senzi, you Martians were a bunch of children and they gave you all the candy you wanted. Killing you with goodness. *You* were the suckers!"

He stopped. Senzi was a monolith of carven rock, his handsome face a fish-belly color. Under his unlidded eyes a furnace of green flame brewed hell. His hand flicked up and slapped across Rod's right, and then his left cheek. He turned abruptly and walked away, slowly at first and then faster. Rod watched him go, saw him disappear as the desert foliage closed around him. He found himself to be breathing hard. Slowly he looked down at the cane in his hand. When Senzi struck him he had released the eight-inch knife blade, unconsciously. The same bloody impulse, in that moment of dumfounded rage, easily could have taken Senzi's life. Why it hadn't, he would never know.

Rodney King walked all of that day and most of the night, following the monorail trestle back to Marsport. The gyromobile with the dead assassin in it wouldn't run. On the outskirts of the city, he caught a taxi, and went to the Hotel de Mars, where he immediately stretched out on the bed, hands locked behind his head, eyes fastened on the ceiling. He remembered the Plutonian medico's words ". . . if you stick to the ordinary tourists' routes . . ." H-m-m-m. He might also have mentioned that you should

keep your mind in a tourist's rut too.

He awoke suddenly. It was broad daylight outside. He lay there for a fraction of a second, and the events of the day and night before flashed before his mind like the remnants of an improbable nightmare. Then he heard the door buzzer, insistently pressed. He bounded off the bed, brushing his hair back, arranging his clothes. The buzzer must have been what awakened him.

He flung open the door, still blinking, but insantly his mind was flooded with a cold, clarifying wind. A man with a paunch across which stretched a gold chain stood on the threshold, and behind him two uniformed policemen.

"You're Rodney King?" the man with the paunch demanded. And when Rodney half nodded, he presented him with a paper which he whipped out of his pocket. A warrant of arrest.

"What's this for?" Rodney snapped.

"I s'pect, young feller, it's got to do with murder. But you better keep your mouth shut for your own good. Get what you want to take with you and come along."

At the station they refused him bail, and for two whole days he sat behind bars before one of the most prominent lawyers in town, a Carl Hargrave, came to see him. Rod told him the whole story, and the lawyer leaned back against the wall, one leg drawn up and resting on the edge of the bunk, squinting an eye against cigarette smoke.

"What do you want me to do—take the case? Let me tell you something. You'll never in your life again see anything like legal conditions on this planet. Martian law and human law are in two separate compartments, with only a few bridgeheads stretching between. Whenever a lawyer establishes such a bridgehead, he goes down in legal history with as much glory as if he'd established a new precedent. Now I can't establish a new precedent in your behalf, because your exact crime was committed once before, and the human law courts ruled that as far as they were concerned such a thing as the Assassin's Guild did not exist. The defendant in that case was judged guilty and he's still up on Deimos digging platinum out of the ground. If they could have found a bridgehead which would have allowed the defense council to yank a few Martian witnesses into the case, the said witnesses would have been permitted to lard their answers to the examination and cross-examination with references to the Assassin's Guild and a nacquittal would probably have resulted."

"What do you mean by bridgehead?"

"A typical bridgehead involves the murder of a human being by a Martian," the lawyer replied instantly. "The Martian would be arraigned before a court composed of a jury of nine or ten Martians—nine usually—and he'd be able to bring in witnesses of his own race. The judge would be bound to ad-

minister justice according to the Marto-Tellurian Code of Laws—"

"Wouldn't the judge and the defendant's lawyer be Martian?"

The lawyer smiled. "How could they be? Martians simply don't work. They're too rich. They don't practice professions. Of course, usually that makes it pretty hard on the defendant in such a trial, but that's the fault of the Martians."

"And if a human being murders a Martian?"

"Same code of laws, but with a human jury of twelve."

"I see." Silence descended. Rodney sat on the edge of the bunk, elbows on his knees, fingers intertwining, a black scowl on his face. He felt thoroughly embittered. He felt absolutely no remorse for the cold-blooded killing of three human beings, and he felt less concern for the net of circumstance which had trapped him than for the Martians against whom an ingenious scheme of extermination had been worked out. The very system of laws governing Marto-human relations made the bodily protection of Martians by human beings an indefensible crime. Everywhere was the evidence that grasping, greedy men had consistently and with plenty of forethought blocked up every avenue along which the Martian life-stream might escape. They disclaimed any knowledge of an Assassin's Guild. They disclaimed any responsibility for Martian lives on public carriers, probably under the pretext that Martians did not want their intrusion. They granted Martians a lopsided justice by creating conditions which made it impossible for a Martian to have a defense council or judge of his own race. And they ingeniously introduced the term "bridgehead" into the legal system as a superficial indicator of their good will toward the Martians, yet at the same time making the establishing of more than a minimum number of "bridgeheads" an impossibility.

This lawyer—probably an apt, forceful personality, yet smug, self-satisfied, convinced of the axiomatic righteousness of the legal complexities which to him were their own *raison d'être.* Rodney wondered what he'd say to the unbiased opinions of Mars which he had formed since his half-week stay here. The lawyer, indeed any person who had grown into the Martian social structure over a period of years, would be unable to see the woods for the trees.

Bridgehead—

Rodney said, "You say there are other bridgeheads. What if a Martian and a human being are jointly responsible for the murder of human beings?"

The lawyer looked at him closely. He made a shrugging motion, then nodded. "It's a bridgehead. You mean to say—?"

"I don't mean to say anything. I want to think this over. First I want to know if you'll take my case."

"Son, if you mean to imply that my reputation would be hurt by a legal defeat in your case, it

wouldn't. Nobody would expect me to win in the first place." His face grew grim. "But understand! I have to have the whole truth, if you haven't yet given it to me. Your question just now suggests you might be holding something out."

"I'll have to think it over," Rodney said, hesitating just the right amount. "My trial's set a week from tomorrow. I'll let you know before then. In the meantime, can you let me know exactly how they pinned these murders on me?"

"Easy. They found your fingerprints on the murder gun in the back seat of the gyromobile. They wired the prints back to Earth and got an identification. Later they questioned the conductor on the monorail, who testified you'd been a passenger in the abandoned car." The lawyer came to his feet, took up his hat.

Rodney said, also rising, "One other thing. I have a certain curiosity concerning the bargain Martians made with a number of corporations a couple decades after man first landed on the planet. Is there any paper or legal document or contract which details the terms of the deal?"

The turnkey was at the cell door, rattling keys, as the lawyer considered the question. "I suppose there is such a paper or papers . . . no, as I recall it, one contract was

made.. In those days—now, too, in a way—the Tjart had vested in him complete ownership of the planet. He leased the whole planet over to a dozen or so corporations jointly. Each corporation has a copy of the contract, I'd say—and of course the present Tjart. Why?"

"Well, I'd like to spend some of my spare time reading the contract. Wouldn't they have a copy of it—in the public library, say?"

The other laughed. "Lord, no, son. Neither corporations nor governments put their private business on display. I've never seen a copy of that contract myself, even though it's affected the whole social structure of the planet."

Rodney shrugged, shook hands, and the lawyer left. And Rodney thought over the lawyer's departing words. Surely, by this time, that contract was of such importance that it belonged in the public domain, like the Declaration of American Independence. It now seemed entirely possible that the business interests which controlled the planet had some definite reason for suppressing the legally phrased terms of the contract from the public eye. Why? He now wanted to examine it ten times worse.

In the morning, he called for a typewriter from the cell-block guard. He plugged it in, and for hours sat looking at the sheet of blank paper. He had a definite idea, a means of establishing a bridgehead, but in some ways it seemed supremely useless, even silly. He began typeing late in the afternoon, but tore up start after start. He ground his teeth, exasperatedly shoved the typewriter away, and paced up and down the cell, trying to think the thing through, trying to make excuses for his decision.

In that manner another day passed, and in the afternoon something happened which changed things considerably. The guard shoved a newspaper through the cell bars, and at the sight of a fragment of the headline, Rodney pounced on the paper, spread it wide, and read. The Tjart of Mars had been murdered!

After he got over the initial shock of that, Rodney sat down, reading through the printed matter with lightning glance. The main facts were simple. During the height of a house party, the Tjart had been walking in the garden with a human guest, when, the guest testified to the reporters, three hooded men had leaped over the wall, grabbed the Tjart, thrown him face down to the ground, pressed a gun to the back of his head and killed him. The guest had been attacked, but only for the purpose of keeping him from interfering. He lay in the garden, dazed, while the assassins escaped over the wall.

Rodney thought: A newspaper can admit the existence of an Assassin's Guild, but it doesn't apply in a court of law.

The paper dropped from his hand. He sat silently. Then, suddenly, he jumped up and began to hit the typewriter keys. He finished in ten minutes flat, addressed an envelope, inserted the folded sheet of paper,

and asked the guard to mail it. He grabbed the bars, chuckling. He had started a ball to rolling, and wait until the authorities saw what it was going to crash into!

The lawyer, Hargrave, came into the cell in the morning, the typewritten sheet clutched in his plump hand. "Son," he said, apparently having trouble keeping his voice below the anger-point, "why didn't you tell me this before? And why did you write it down in the form of a statement? Don't you realize it's a confession of guilt, if they can't prove that this Senzi was your accomplice in the murders?"

"I want you to hand that statement to the homicide sergeant," Rodney said. He chuckled. "I've established a bridgehead, haven't I? They'll have to try us under the Marto-Tellurian Code, because Senzi at the very least will have to be brought into it as a defendant."

Margrave looked him straight in the eyes. "You realize," he said, with a slight edge of contempt, "that your friend Senzi won't necessarily be acquittal if he's guilty just because the trial will be conducted on a bridgehead, don't you? Any court of law is hard on a Martian."

"I realize that," Rod said.

"Who is this Senzi?"

Rod shrugged elaborately. "You'll find out. He came in on the *Deimos Queen* with me."

Hargrave went for the door, said grimly, "I'll see you."

He was back in exactly thirty minutes. He was waving a newspaper. His face was chalk-white. "You fool," he choked. "Do you realize what you've done? I've already handed that statement to the sergeant in charge. Look at this newspaper. Your friend Senzi is the new Tjart of Mars!"

Much later, Rodney King sat in his cell in the dark, feeling beaten in body and mind. He didn't remember how many cops, sergeants, chiefs of police and politicians had milled around, trying to force him to disquality the statement, which had been entered in the records so unalterably that no number of legal thumbs could gouge it out, short of a complete denial from its author.

What had been a civil matter had now become planetary in character. When Rodney was left alone with Judge Stanley Whittle, he was certain the tempest in the teapot had boiled over and was staining somebody's fine linen. It was his certain knowledge that Judge Stanley Whittle had flown from Canal City, halfway around the planet, merely to hold conversation with Rodney King.

Whittle was small, hard, silvery-haired. His eyes were gimlets. They never left Rod's face.

"A Tjart of Mars cannot be subpoenaed," he started off.

"Unless he wants to be subpoenaed."

"He won't want to!"

Rod smiled. "In the two days since your prize maulers have been working on me, I've been asking my lawyer some questions. By the middle of next week, you'll have to hold the trial and subpoena the Tjart. Why don't you wait till

then and see if he wants to be subpoenaed?"

Whittle's face darkened. "You seem sure of yourself."

"No," Rod said wryly. "But I am pretty sure of Senzi."

Whittle said, beginning to harden, "Son; you've let yourself in for something. What if the case was postponed a couple of weeks—a couple of years—a couple of decades? There's more to law than you dream of."

Rod shrugged, stretched out his legs, stared at the floor, hands jammed in his pockets. "Judge," he said slowly, choosing his words, "you've got the law in your pocket, but you haven't got the Tjart in your pocket. There isn't any legal trickery you can use that will stop this case if the Tjart doesn't want it stopped."

He continued to stare at the floor.

Thereafter, Judge Whittle talked for two hours. He never softened, never took his eyes away.

Toward the last, he indicated that it was possible for Rodney King to become a rich man.

Rod sighed. "The way you've become rich, judge?"

Judge Whittle stood up. It had grown late. Shafts of gloom came through the bars of the cell. Whittle's eyes seemed phosphorescent. He said harshly, "Son, let's drop all pretense. What's your real motive?"

"Exactly what yours should be: justice."

Whittle left instantly, without a word, without an analyzable expression. Rod sighed, smiled bitterly, lit a cigarette. He had to admit to himself he was apprehensive. An Assassin's Guild could murder still another Tjart. And Judge Whittle, or the men who owned him, could arrange for the murder of one Rodney King.

But the situation rested there for four days. Hope blossomed. In spite of the forces stacked against it, there might yet be a trial—and what a trial it would be!

On the fifth day, the lawyer Hargrave told Rod that subpoena papers had been drawn up against Senzi. More, that the story had leaked out to at least one newspaper, which printed everything.

Rod suspected that Hargrave himself had supplied the leak—which was good politics. Hargrave's name had doubtless been mentioned in connection with the case.

In the middle of that same night, Rod awoke. The cell door clanged open with a brutal sound. There was a rush of feet, a muffled, cursing outcry. In the callow half-light, Rodney tumbled to his feet, ran smack into a gun a hooded man was holding in his gloved hand. The gun pressed square into his chest, and as the sounds of commotion in the outside corridor increased, the man said, "Make no outcry. Come along. We're arranging your escape."

Rod stood perfectly still. At last he said, cynically, "Escape. With a gun in my stomach?"

"You're in no danger. Will you come?"

"In the first place, I don't want to escape. In the second place, you're a liar. Get out of here."

The hooded man motioned to a companion. The other hooded figure, big and wide, came toward Rod. His arm swung up and the bean-bag in his hand came down. Rod reacted, knocked the man's fist aside, ignored the gun and kicked at the man's stomach. His kick actually landed, but it seemed to have no effect. The bigger man grabbed Rod's foot and jerked him crushingly to a sitting position, and then jumped him.

"You may remove his gag and bonds," a voice said.

Light stabbed through Rodney's eyelids. Life began to flow again through arms and legs. He lay still, trying to piece together a groggy remembrance of riding, riding, interminably. And here he was. Where?

"You may leave," the same voice remarked. "Rod, get up. I'm sorry I had to have you handled so roughly."

"Roughly isn't half of it," Rod thought wearily. He opened his eyes and the verified knowledge that it was Senzi standing there, Senzi who had arranged his unwanted escape, was too profound a shock to create any reaction. He looked curiously around the room. It was a bare room, almost monkish in its furnishings. Straight chairs, an unornamented table, long, narrow, unscreened windows admitting shafts of light which but intensified the gloom.

Senzi was dressed in a peculiarly braided garment, the scarf of which hung from one shoulder. Rod laughed deliberately, with brittle impact, and Senzi's smile was wry.

"I inherited this outfit when I became the Tjart, Rod. I inherited this room, too—my uncle's study. I never saw the room before, just like I never saw a lot of things about my uncle. He kept all his private papers here, and the room's a big safe. You couldn't get into it with a charge of jovite sulphine. Rod, I brought you here for a reason—namely, that everything you said out there on the desert sank in."

Rod arched an eyebrow. He said curtly, "I know why you brought me here—and you've pulled the biggest boner of your doubtful career."


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"Why! What do you mean?"

"Namely that you knew that you and the rest of your race were being given a chance to have a System-wide audience and that you muffed it."

Senzi frowned.

Rod said patiently, "You knew they were going to subpoena you, didn't you?"

Senzi's unlidded eyes showed relief. "Oh, *that!* Rod, that affair has hardly passed my mind. I've been immersed in something that seems much more important. That you named me as an accomplice in those so-called 'murders' sinks into obscurity besides this new thing. You must give me credit for having the intelligence to see you had no personal motive. And whatever the motive was, the fact still remains that it was you who opened my mind to the diabolical process of extermination being practiced on my race. No, I brought you here because I can trust you and I need your help. Rod, sit down over there."

A few moments later, Senzi was sitting down opposite him with a foot-high pile of papers which he had extracted from a safe. "Now," said Senzi, "I'm going to hand you these letters, documents and carbon copies of letters and documents one at a time, Rod. As you glance over them, pile them up face down beside you. They're in the order of date. I'm pretty sure you'll be able to put together a pretty amazing picture of things as you read. Here's the first one."

The first and the dozenth passed under Rod's flying eyes. At that point he looked up. "You realize what this means, Senzi?"

"I do indeed!" There was a certain strained melancholy around Senzi's eyes, like that of a child which has just reached the age where it can appreciate that life is not a matter of mud pies. "It means that my uncle was not the jaded, weak puppet of a ruler which so many thought him—including me. When he was murdered, he was preparing to use his full prerogative as a ruler of Mars. But go on and read. As far as you are now, it merely shows that he has been making discreet inquiries by means of human friends to find out how many Mars-born human beings live on this planet."

"And," said Rod, "more to the point, probably: how many stockholders are Mars-born. So far his figures show nine-tenths, in both cases. But where's the investigation leading?"

"Read."

By the time he got through half the pile, terminating on a thick sheaf of photostats which held thousands and thousands of human signatures, Rod knew where the investigation was leading. He looked up with startled glance.

Senzi nodded sadly. "It's true, Rod. That petition was signed by countless human beings, all demanding that my uncle sign a decree which would give them the legal right to call themselves Martians. More, it was my uncle, with the aid of human friends, who started

the whole movement. Rod, he *wanted* Mars-born human beings to have the legal status of Martians. You remember he told me he wouldn't stand for it—that it was just a device of Earthmen to give them a more complete control of the planet—such complete control that they might be able to kick us off? A blind. My uncle didn't even dare to trust in me. He trusted certain human friends more. He was laying the foundations for the machinery which would give him full legal right to sign the decree.

"Anybody else, Rod, studying these papers, would have concluded my uncle was a traitor to his race. If I hadn't met you and learned what I did through your eyes, I would have thought so, too. As it happened, word of what he was intending to do leaked out, as you can see from the rest of those letters. Don't bother to read them. They are protests—protests worded in such a way that they become threats. Letters from majority stockholders, from corporation presidents and other high officials, stating that this move was a plot for Mars-born human beings to seize ownership of the planet from the Tjart. Pointing out that once the Tjart signed the decree, the 'inheritance' for each new generation —Senzi gave a contemptuous laugh —"would automatically cease. And they had other more potent objections.

"Finally, as you deduced, Earth stepped in with numberless diplomatically worded notes from their government. They stated, badly, that when Mars-born human beings tians, they would then seek to obtained the legal status of Marslaughter real Martians. In such a case, the Earth government said, they would then be forced to send armed ships to take over the planet by force. Then they included a warning. In such an event, it might be very difficult for the Tjart to re-establish his ownership. Oh, the letters and documents are very clever, Rod. And so, when it became apparent that my uncle was going ahead with the thing, they stepped in and murdered him."

Rod sat quietly. He already suspected as much. The Assassin's Guild could serve human beings as well as Martians. The murder was evidence enough that the people who drew their wealth from Mars had been running a series of bluffs designed to intimidate the Tjart. The bluffs were failing. A new Tjart would be easier to deal with, particularly one of Senzi's supposedly weak character.

Rod pushed the chair back and absently began to walk up and down, chewing at his lower lip.

Senzi followed him with his eyes. He said politely, "Your leg better?"

"Dozens of times," Rod admitted. "Must be the shallow gravity. Maybe if I stick on Mars a couple years, I'll get a cure out of it. Senzi, listen. I can see you're stuck. You don't know *why* your uncle wanted Mars-born human beings given the right to call themselves Martians."

"Rod, I don't! That's what puz-

les me. He went to such a lot of trouble to stir up the movement that I know he must have had a good reason. Why, I don't think any Mars-born human gave a care whether he called himself a Martian or a Tellurian before certain paid groups began to get emotional about it. The average man just didn't know there was a law forbidding him to refer to himself legally as a Martian; when he found out about the law, he began to yowl for the Tjart to repeal it. The more my uncle refused, the more desperate the humans got. That got Earth interested. That got the politicans interested. In turn, business interests began to get frantic. Oh, it was a wonderful bit of applied psychology, my uncle's plan, but—"

He spread his hands, dolefully. "I don't know why he planed it."

Rod said, "Where's your copy of the sixty-nine-year contract that was drawn up when the planet was leased?"

Senzi was agitated, almost tearful. "I've looked. I can't find it. Either it's been missing for years, or somebody stole it when my uncle was murdered. Like you, I feel the solution may be there. And yet—"

He stopped as Rod stopped in his pacing as if he had just thought of something and went in a beeline for the table where the documents were still stacked.

He leafed through batches of letters with a wetted thumb. The pages flew. He threw out about a dozen letters, then looked up at Senzi, grinning.

"Senzi, it's a relief to me to know there are still a lot of good men around — important men with big jobs, too. Here. Look at these signatures."

Senzi came around the table. As he read the letters, his eyes frowned. "I don't see any connection," he complained.

"Sure you do. All these men were working hand-in-glove with your uncle. They were part of his secret organization, whether they thought of it as a secret organization or not. Take it from me, they all knew the significance of Mars-born humans calling themselves Martians. *Look* at those names! Three corporation lawyers, six judges even I've heard of clear up to Pluto, five . . . no, six . . . government officials, two of them elected by the people, one majority stockholder in Fontanaland Metals, one chairman of the board of Glass, Inc., the president of Desert Diamonds, Inc., two big spaceship manufacturers—"

"Oh, Rod, that's enough—that's plenty!" Senzi's face was wreathed with a smile of delight; for the first time, Rod noticed the little dancing golden specks of light beneath his skin—it was the poor lighting in the room that brought it out, he guessed. He grinned back at Senzi.

"Understand now?"

"I do indeed! Rod, this is wonderful. But whom shall we go to see?"

"How about Gilcrest of Fontanaland Metals?"

"He's about eighty years old," Senzi mused pointlessly. "Is that

so! Well, read his letter. He sounds like forty. Anyway, so much the better. He remembers when Mars swarmed with Martians and there were hardly any human beings here at all."

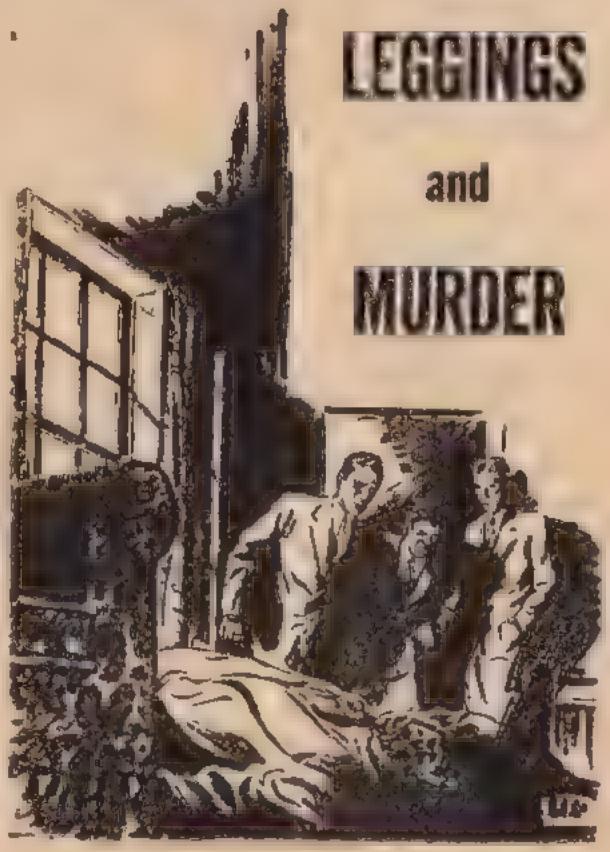
"I'm not sure," Senzi said uneasily, as the gyromobile moved from the desert into the outskirts of Canal City three days later, "that I am doing the right thing by allowing myself to be subpoenaed—I, a Tjart. I could easily break the whole case simply by refusing to appear—"

"But that's just what you aren't going to do," Rod said. "You've already signed the decree. Tomorrow it'll be presented to the Earth Assembly. It'll be circulated all over Mars at the same time. When the implications of the repealed law are understood, Mars will become an economic madhouse, and that insanity is going to have repercussions all over the System. What kind of feeding for the new Martian state are the System's peoples going to have when they find out what's happened, unless they're given a chance to understand why it did happen?

"No, Senzi, they have to be told, and this trial is your opportunity to tell them. Everything. When a Tjart of Mars is a defendant in a murder trial, that's really something. It's the biggest court case in history and they'll be forced to televise it all over the System. And between the two of us, the whole dirty plot should come to light."

The gyromobile bumped and


ORCHIDS, LEGGINGS and MURDER



There was the body with a knife in it —in the orchid house—and a coonskin cap was the only clue.

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DOC SAVAGE

AT ALL NEWSSTANDS

swayed across the ill-tended road, and Rodney King leaned back against the seat, closing his eyes. He could still see Gilcrest, that amazing man, when he and Senzi had talked with him two days before. Gilcrest was old, very old. He had the character of aged wine. Everything about him was warm. He exuded a human kindness varnished with one thin protective coat of irony.

His voice was low, slow. "I thought the game was up when your uncle was killed," he said simply. "Few of us expected you to understand. Now that you've come to me, as I hoped you would, your highness, I can tell you what you want to know."

His eyes closed, slowly opened. "When I was a young man, there were two very old men who controlled Mars. Their names were . . . I forget their names. But year by year before my time, they started corporation after corporation on this planet. They imported labor from Earth, and they made Martians rich. But for every hundred laborers to come from Earth, it seems to me that a thousand Martians died.

"Those two old men created the social structure of the planet. Blame them for everything that has happened to the Martian race.

"Your highness, can you blame the businessmen of Mars today for what happened and is happening? They didn't inherit the System, it inherited them. I'm a rich man, but not until your uncle spoke to me a few years ago did I stop to realize I might be an unwitting murderer by accepting the System, together with the principles that tie it together. Together with many others, I finally gained the strength of conscience to finally do what was right. There were others who didn't have that strength and they fought your uncle. They couldn't face the thought of complete poverty—as I will have to face it when our scheme succeeds."

"Poverty?"

Gilcrest was sitting behind a desk which had the color of beer bottles; it was made from glass which had been drawn from the ferrous-oxide sands of the planet. He stirred, loosened his scarf from around his neck, withdrew a yellowed document from an inner pocket.

"The contract. The source of the poison which has decimated the Martian race—from eight million in my time to one million in yours. Next week this document will be the most widely circulated paper in the System. Because, long before next week, the economic system of Mars will go haywire. The only possible economy to fall back on will be the old Martian economy. Remember that, your highness. Mars will fall back into your ownership. It's up to you to redistribute the wealth as seems best.

"It's up to *only* you. Human laws won't apply any more, because, technically, there won't be any more human beings. The Marto-Tellurian Code will apply between Tellurians and Martians, only. The Assassin's Guild and other barbaric practices will die a fast death, because the 'inheritance' system will

already have died. For the first time in a century, the Martian race will have a chance to flourish as it should. The cork has been removed."

Senzi said, groping, "All this, just by permitting Mars-born humans to call themselves Martians?"

"It's not a matter of permission any longer. The decree you sign specifically states that Mars-born humans be legally defined as Martians. Now you understand. By the terms of the contract, Martians are not allowed to hold stock in Martian enterprises. They are not allowed to own real property. They are not allowed to work for non-Martians. I was born on Mars, for instance, but technically I'm a Tellurian. When you sign the decree, I'll be a Martian. That's why I'll lose all my money. I can't hold stock in Martian enterprises. Nine-tenths of the population are in my shoes, too, because the contract will automatically void itself. It's just that when you lay plans for a long time into the future, you can't help but miscalculate somewhere along the line—pull a legal boner, for instance.

"The two old men—old in my time, anyway—made Martians the gift of a horse, provided they could hold the reins. They preferred to believe that nobody would be impolite enough to look the gift horse in the mouth."

Senzi said lowly, "But the word Martian refers only to members of the Martian race."

"Does it really." Gilcrest smiled. "Your highness, read the contract over and try to find any mention of that very, *very* necessary definition."

Bumping along in the gyromobile, Rod sat upright. "Say, Senzi! What's the date, anyway?"

"You mean Earth time, of course. December 31st. Tomorrow's the first of the New Year."

"The first of the New *Year?* It's the first of the New *Century!*" He sank back against the seat, marveling. "Senzi, a lot can happen in a century, can't it?"

THE END.

## THE ANALYTICAL LABORATORY

We're short of space this month, and have two labs to report on. So I'll simply say, "Here they be!"

APRIL ASTOUNDING

| Place | Story | Author | Points |
|---|---|---|---|
| 1. | Dead Hand | Isaac Asimov | 1.61 |
| 2. | Destiny Times Three | Fritz Leiber, Jr. | 2.46 |
| 3. | Correspondence Course | Raymond F. Jones | 2.92 |
| 4. | Brains For Bricks | Malcolm Jameson | 3.53 |
| 5. | Vocation | George O. Smith | 4.07 |

AND MAY ASTOUNDING

| | | | |
|---|---|---|---|
| 1. | First Contact | Murray Leinster | 1.79 |
| 2. | The Purpose | A. E. Van Vogt | 2.42 |
| 3. | One-Eyed Man | Philip St. John | 2.78 |
| 4. | The Fixer | Wesley Long | 3.55 |
| 5. | The Trap | F. B. Long | 4.15 |

THE EDITOR.

# Lots of Gold—

# But Get It!

As the old placer miners would say, astronomers have at last gotten a show of colors in the solar spectrum. Two experts collaborating on opposite sides of the United States, Dr. Charlotte E. Moore of the Princeton University Observatory and Dr. Arthur S. King of the astrophysical laboratory of the Mount Wilson Observatory, have just published an account of their work describing how they have finally panned a line in the spectrum of the Sun which they have had the courage to label "Au?". They can't be positive that it is produced by gold but the evidence all points in that direction. Although spectrum lines of Ag and Pt were identified over a decade ago, this is the first indication of an aurous line in old Sol.

It would be highly appropriate if the line occurred in the yellow part of the solar spectrum. Instead it is out of sight in the ultraviolet at wave-length 3122.82 Angstrom Units (A.U.). Since 1927, when the official Bible of twenty thousand solar spectrum lines was published called the "Revised Rowland Table", this line has gone unidentified. As such it is a continual challenge to astrophysicists.

Often the reason why lines of many elements have not been identified was simply because no one has tried to get good large-scale spectrograms of them in the laboratory. Until recently this was the trouble with gold. Its spectrum lines had not been accurately measured so that they could be compared with assurance with solar lines. This situation has now been remedied with publication of precise wave-lengths in the laboratory spectrum of gold. One of the very strongest lines comes at 3122.78 A.U., coinciding in position with the solar gold line within the permissible errors of measurement.

Unfortunately the very strongest gold line of all—the *ultimate* line as spectroscopists call it—is much farther on down in the ultraviolet at wave-length 2427.95 A.U. Now beginning in the ultraviolet solar spectrum at 2900 A.U. the ozone of Earth's atmosphere blots out all trace of radiation. And so it looks as if astrophysicists would have to be satisfied with their tentative identification of the next best gold

line at 3122.82 until someone builds an observatory on the Moon.

In 1930 an assay was made of the Sun's atmosphere and the quantities of different elements found there was determined with considerable accuracy. This was done from considerations based on both the structure of the various atoms and the strength of their spectrum lines. Elements such as hydrogen, oxygen, silicon, magnesium, sodium, and iron were found in great abundance. Others that gave only a few weak lines like lead, antimony, barium, and arsenic are barely abundant enough to give just a trace. Assayers usually express the quantity of element present in the number of ounces per ton. But in the Sun astrophysicists give it in the number of grams beneath one square meter of the Sun's surface. Generally the quantity of any metal present is less than a pin's head. But the Sun is so awfully big that a little bit of anything becomes an awful lot when added up for the whole surface of the Sun.

How can we estimate the amount of gold in the Sun then?

Probably as good a way as any at present is by comparison with the abundance of other elements in the Sun. According to the assay of 1930 there is 1/100 of a gram of silver beneath each square meter of solar surface. Meteorites serve as an excellent guide to the abundance of elements in the Solar System. They have been found to contain about half as much gold as silver. Therefore, until better data are published we shall take the amount of solar gold as 1/200 of a gram per square meter.

From here on it is merely a question of being careful to get in the right number of zeros. The current rate paid for gold is $34.50 per ounce troy. There are 8.8 hundred trillion troy ounces of gaseous gold in the solar atmosphere. When multiplied together we get the astounding figure of $30,360,000,000,000,000 as the value of gold in Sol. Compare this with the puny gold bullion of the whole world of $25,702,000,000 as given in the *World Almanac* for 1939.

When you come right down to it, why isn't this gold just about as much use to us as the gold bullion nations keep locked away here on Earth? Do you get any more benefit out of the gold buried deep underground at Fort Knox, Kentucky than you do out of the gold in the Sun? And by the way, how do you know for a fact there is all that gold at Fort Knox they claim there is? Did you ever see it or know of anyone who has? Have you positively identified it as gold with aqua regia? Probably not.

But on a clear day we can send a shaft of golden sunshine through a spectrograph with the positive assurance that the weak aurous line at 3122.82 A.U. will always be found there.

*R. S. Richardson*

(*Continued from page 46*)

no time for a second blow. He was down, hit three times by Gosseyn's fists. Hit so hard that he fell hard like a dropped sack.

Gosseyn whirled on the woman. She had made no attempt to escape, or to help the doctor. She stood, a little wide-eyed, staring at the man, where he lay, writhing now, on the floor. She looked up. She said simply:

"You heard us before?"

"I heard," said Gosseyn.

She expected no mercy. And she received none. Almost pacifistic non-Aristotelianism might be. But it taught the inner meaning of positivities, and, in its higher techniques, trained individuals how to level off consciously on any plane of certainty.

Such a leveling was called for now. There must be other people in the hospital. Any instant, the woman might level off, herself, on the very natural defensive level of screaming for help.

Gosseyn struck her hard on the jaw. He caught her as she fell, and laid her on the bed. He put on the man's shorts and shoes, tore a sheet into strips, and bound and gagged, first the man, then the woman.

In five minutes he was ready for the next phase of his escape.

It was a hospital all right with thirty beds, all empty. Downstairs were the living quarters, the laboratory and the surgery, similarly empty of human beings.

Gosseyn made a second, more careful search, examining clothes closets, smashing three teleradio communicators; and then, satisfied that he was safe so far as the inside of the building was concerned, went out onto an enormous veranda.

The splendid vista of the trees and the river, greatly enlarged now that it was no longer confined to a window view, spread before him. To the left and the right, the valley extended, briefly visible, but cut off by the Cyclopean groves—a shadowed universe of wondrous, godlike trees.

A hush lay over all, a silence so intense that it was startling—but not frightening. There was a grandeur here, a peace unequaled by anything in his experience.

Gosseyn drew a deep, slow, exhilarated breath. The air was fresh, as if it had been recently washed by an invigorating rain. It braced him, yet the day was beautifully mild; all the sweetness of a summer afternoon tingled upon and through his body.

Impossible to tell whether it *was* afternoon. There was no sun. The vast height of the sky was cut off by clouds that were almost hidden in a blue haze of distance.

Being a null-A, it was necessary for him, within the limits of the human nervous system, to attempt an accurate visualization of the reality of that sky. Gosseyn estimated an atmosphere twice as thick as Earth's, a thousand miles or more of air—the clouds of Venus that made the second planet the dazzling spec-

tacle of Earth's night sky.

Thinking about it, he felt more alive, excited. Felt himself in a timeless world.

Gosseyn descended the stately steps to a green velvety soil; and, turning, looked at the building. It stood alone in a natural-looking, gardenlike setting. It was constructed entirely of a shiny gray stone. Behind it, a hill rose steeply, as much as four hundred feet in places, a long, wavy green ridge, thick with gigantic shrubs and flowering plants.

Gosseyn walked briskly around the building; and, as he had half-expected, there was a series of stone steps leading up to the top of the hill.

It took him about ten minutes to climb the four hundred feet to the top, but the effort was worth it.

He looked down, down, down into distance. Gray-blue haze of distance. The hill on which the hospital was built was not really a hill at all, but a lower peak of a mountain, dipping down behind him past the hospital into a smaller valley before curving past the titan trees towards the higher peaks beyond.

Now that he was four hundred feet above the building, Gosseyn could see the peaks. They rose above the trees; they were snow-capped; they must be miles higher to be visible at all beyond that barrier of trees.

There were more trees in the greater valley down which Gosseyn gazed. But even they were dwarfed by the appalling depths to which the mountainside receded. Far down in that depth, Gosseyn caught a gleam of water, and, shocked, remembered the discolored river.

He turned to stare at it. And now that he was looking for it, he could see the sharp tilt of the water. No wonder it looked dark and ugly; no wonder it was so silent in its course: it was racing down a mountainside with an oily velocity that long ago had worn a smooth bed.

Somewhere farther along must be cataracts that would make Niagara tiny so far as height of fall was concerned; only thus could this swollen river hope to get down so swiftly to the deeper reaches of the great valley, where its gleam was so faintly visible.

It was saddening to think that he wouldn't see those many waterfalls. But there was little possibility; his whole strength and purpose must be bent towards making an escape down the mountainside; and he couldn't pause for scenic tours.

The first hard worry struck at Gosseyn. Escape! Down that mountain! Where to?

He stared with a more calculating intensity into the gulf of distance below him. He could see where the valley down there leveled off. For several miles it seemed to be a flat plain; and then the mists of remoteness closed in, and hid what lay beyond.

At least, there seemed to be no mountains in that direction. Though he'd have to ask questions about that. Detailed, pressing questions.

Thought of all the information he had yet to obtain brought a surge

of anxiety. Was he actually out here admiring scenery, when every natural urge of self-preservation required him to leave at the earliest possible moment. Why, any hour, any *second*, a roboplane might come winging into view, out of the distance of an immense sky.

The pang of alarm that thought brought sent Gosseyn hurrying down the stone steps, back into the building.

The man and the woman lay where he had left them. They were both conscious, and their eyes looked up at him with just a shade of anxiety. So they were human after all, Gosseyn thought grimly. Beginning to be afraid.

He had no intention of harming them, but it wouldn't hurt to keep them jittery. He removed the gags from their mouths, and said:

"Where do you keep your maps of Venus?"

There was no immediate reply. Then the man rolled his head sideways, and flashed a reassuring grin at the woman, who smiled back. The man said:

"He thinks he's going to escape."

He glanced again at Gosseyn. "Knowing," he said earnestly, "that you have no chance of getting away, I am quite prepared to give you all the information you want. To begin with, the maps are in a cupboard in the laboratory in—"

He described the location of the cupboard. Gosseyn remembered having looked into it, but he said nothing. Instead he went downstairs and secured the three-dimensional things, returning without a pause for a glance at them. He was anxious to hear the comments of his prisoners on everything he did or said.

He felt a dissatisfaction with the couple. Their personalities refused to show clear. They were a pleasant, apparently harmless husband and wife, living alone in a mountain retreat.

Lovely and wild as was the setting of their home, it seemed incredible that it and they could be typically Venusian. Was this the heaven attainable by victory in the games of the Machine—a lonely existence cut off from that social communication and big city life, so essential to the well-being of the intellectual man?

His nervousness grew. He went to the window, and stared intently into the sky. These people had had him checked by some mysterious Registry; and it was thus they had found out that he was alien to Venus. Not impossibly the authorities behind the Registry were even now dispatching a plane loaded with police to pick him up.

Jittery, Gosseyn returned to the maps. Frowning, acutely conscious that the eyes of the man and the woman were watching him, he spread the referents on the floor, and knelt beside them.

Instantly, his spirits rose.

The planet was alive with cities. They glowed on the maps. Some of them, if the brightness of the light and the space allotted to them was any criterion—as it should be—must have populations of well over a million.

One man could lose himself pretty thoroughly in a large city. And there must be ways of getting back to Earth.

More cheerfully, his whole being more alive, he searched for mountain belts. There were plenty of those, too; so many that after a few moments, Gosseyn looked up, and said:

"Will you show me where you are on one of these maps?"

The man said promptly. "We're on the one marked 'Three', just about the center. There's a mountain range there, falling away towards the south. We're about halfway up that range. I once put a little mark showing our exact location. It's probably still there."

It was. It showed the little mountain hospital to be about four hundred miles north of the nearest city.

Even if he had to walk over the roughest country, he could make it in twenty days. Of course that would be the direction he would be expected to take.

Gosseyn smiled savagely. Because if he could be sure of his food, two hundred days wouldn't be too long to take on the journey. A man who faced quick death if he made a mistake, *couldn't* take too many precautions. Climbing the highest mountains, fording the deepest rivers must be the merest incidents in the life of a hunted man.

"Oh, there's ample wild fruit," said the man in answer to Gosseyn's query. "Purple berries an inch thick by the billion, a large yellow fruit just beginning to ripen, a bananalike juicy fruit, reddish in color. I could name a dozen others, but those will see you through any trip that you can possibly make."

Gosseyn studied the other thoughtfully. Finally he went downstairs and brought up a lie detector from the laboratory. The doctor merely smiled and repeated his statements; and the lie detector said:

"He's telling the truth."

Gosseyn said: "You seem very convinced that I will be captured."

"Of course you'll be captured." The doctor was calm. "Our police system on Venus is unique. We have no ordinary crimes, of course, but the cases requiring detective work that do come up are always solved with extraordinary speed. You will be interested in meeting a null-A detective, but you'll be shocked by the swiftness with which you are captured."

There seemed nothing to say to that. The man's confidence was jarring, but not by any means final. Like all the other words ever spoken, these were not necessarily the fact.

It was the woman who answered his next question: "No, nobody special is coming to get you. Every three days a roboplane brings us supplies, and takes away anything we have to send." She smiled. "You see, things work differently on Venus. There is no police organization, as such. We notified Central Registry which, in turn, passed the information on to an automatic police registry. By this time, in fact within a few moments

of the information coming in, somebody will have volunteered to look after your case."

"Volunteered!" echoed Gosseyn.

"Nobody has to do it," explained the woman, "but somebody always does." She added: "It was the roboplane that saw you lying near the Games Machine—an extension of the one on Earth—and brought you along to us. That was yesterday."

Gosseyn sat taut. Two days! He had two days. There was something unnerving about the frankness of this couple, their simple conviction that he would suffer disaster. But—two days! It was more than he had expected. Little enough, to be sure, for a man on foot. But a start! A chance!

He stood up. And then once more he hesitated. There was so much that wasn't clear. The part about the roboplane finding him near the Machine—that, particularly, needed a lot more explanation. Because how had he got there?

He felt a sudden anguish of anxiety.

Was it possible that his running towards the Machine on Earth had actually enabled the Machine, even as he was being killed, to transport him in some unheard of manner, to the extension of itself on Venus?

It was futile to think about it at this remote distance from the Machine. Again he looked at the man and the woman. And abruptly knew that he couldn't depart yet. To leave these two here without telling them of the grave danger threatening Venus, without trying to persuade them in his favor, without making them feel that the automatic death sentence against him was all wrong—regardless of the risk, he dared not pass up the opportunity to tell somebody his situation.

He felt as cool and unshakable as hard metal. His nerves were steady as lead, that stable element. He turned back to the bed, and said to the woman:

"What is your name?"

"Amelia Prescott."

"And yours?" That was to the man.

"John Prescott."

It was to the man that Gosseyn principally addressed himself.

An hour later, Gosseyn let his voice lapse into silence. In the bright light that glared in through the wall-window, he stared steadily at Prescott.

The doctor had rolled over on the bed and was frowning down at the floor. Abruptly, the man glanced up.

"I suppose," he said, "you realize your story has a basic flaw."

"My story," said Gosseyn grimly, "is true according to my memory. And any lie detector will bear out every word of it. That is, unless —" He smiled bleakly, paused.

"Yes?" Prescott urged. "Unless what?"

"Unless all the memory I now have is of the same category as my earlier belief that I had been married to Patricia Hardie, but that she had died, leaving me grief-stricken." He broke off, sharply: "What is this

flaw you have detected?"

The answer was almost thalamically prompt. "Your identification of your present self with the Gosseyn who was killed. Your complete memory of that death, the way the bullets and the energy struck you and hurt you. Think about that. And then think of the underlying credo of Ā, that no two objects of the plenum can be identical."

Gosseyn was silent. Through the window, trees taller than the tallest skyscrapers towered towards a blue haze of sky, and a swift river flowed through an evergreen world. Strange and tremendous setting for a conversation about the structural nature of things organic and inorganic, things molecular, atomic, electronic, neural and physicochemical, things as they were.

He felt a black wonder. Because *he* didn't seem to fit into that universe. A score of times since his awakening, he had thought through the very objection that Dr. Prescott was now making.

He was a man who claimed not merely similarity of structure, but identification with a dead man. The root logic of Ā was at stake.

What you say a thing is, it is not.

In effect, he was maintaining that because he had the memory and general physical appearance of Gilbert Gosseyn I, he was Gilbert Gosseyn I.

*What you say a thing is, it is not.*

There were subtle meanings to that, of course. Any student of philosophy, even in the olden days, knew that two apparently identical chairs were different in ten thousand times ten thousand ways, none of them necessarily visible to the naked eye. In the human brain, the number of possible paths that a single nerve impulse could take was of the nature of ten to the twenty-seven thousandth power. The intricate patterns set up by a lifetime of individual experience could not ever be duplicated. It explained beyond all argument why never in the history of Earth had one animal, one snowflake, one stone, one atom ever been exactly the same as another.

Unquestionably, the doctor had discovered a basic flaw in his story. But it was a flaw that, in itself, required weighty explanations. A flaw that could not be dismissed by an elementalistic refusal to face it squarely. Prescott was speaking:

"What you have stated," he said, "about a gang that has somehow got around the Machine on Earth, nullifying its control of the games, and its relation to the victors of the games, sounds like a romance straight out of some neurotic brain. As a story it is comparable to the maunderings of the old style village idiot, who believed any tall yarn, so long as it didn't happen in front of his own eyes. And, even if he did see, his verbal picture of it would become more fantastic by the hour. All this, and yet—"

He stopped. He gave Gosseyn a measured look.

"I suppose," he said, "you realize that there is a lie detector in the room."

Gosseyn stared at him as a hynotized bird might gaze at a snake. There was silence, except for a queer drumming sound at the back of Gosseyn's head. He began to feel dizzy; his vision blurred. He sat cold.

"It would be interesting," the doctor went on inexorably, "to find out for certain if there really was another body."

"Yes," said Gosseyn at last, blankly, "yes, it would be interesting."

He couldn't imagine it. Now that the words had been used, the picture presented to him this way, he didn't believe the story himself.

He was reluctant to test it, so violently reluctant that it was like a fire inside him. But all the time, long before Prescott had mentioned the detector, *he* had known there could be no evading its use.

He went over to it. He put his hands on the metal contacts, and waited while the sensitive, energy-conducting lights played over his face.

"You've heard what we've been saying," he said. "What is your verdict."

"Your story is true according to your knowledge," said the detector. "You are right in believing that you and the person who called himself Gilbert Gosseyn I are not the same individuals. There is nothing in your mind that explains why you have a portion of his memory, and no clue at all as to your true identity."

It was a moment for decisions. Without a word, Gosseyn unbound the two doctors, first the woman, then the man. He watched them while they rubbed the circulation back into their numbed members. He said at last:

"Well?"

The man and the woman looked at each other. And it was the woman who spoke:

"I think," she said, "you had better be on your way. I'll make up a packsack for you, and we will pass your story on to Detective Registry. What they will do, of course, is out of our hands."

Gosseyn said: "you wouldn't advise me to remain here?"

"No!" It was the man who answered that. "Detectives have the authority to kill people in your position on sight. And in recent years, I've noticed, they've been using their various powers rather freely. It would be better to let your story sink in for a few days before exposing yourself. You can scarcely imagine how poor your legal position is. I'd say, wait till you're captured."

An hour later, Gosseyn was heading "west" along the valley, following a mighty river towards its source.

## VII.

"To be acceptable as scientific knowledge, a truth must be a deduction from other truths."

Aristotle
The Nicomachean Ethics
*circa* 340 B. C.

The grass was soft beneath Gosseyn's feet; and at first there was

a sort of a path, as if others, less earnestly bent, had walked this way, lightly, airily, and left an imprint of happy strolls through the dusk of warm and fragrant evenings.

The fragrance was lingering there, sweetly, deliciously there. The scent of growing greens was a thick perfume headily intermixed with the feel of imminent rain; yet the air was not stuffy, not too humid. Gosseyn had the exhilarating conviction of an adventure begun in paradise.

Even though he was still in sight of the hospital, his anxiety diminished minute by minute.

At first, too, there was the hissing swish of the river, nearby now. But that faded as he entered the shadows under the titan trees.

Shadows? It was like a witch's night, like coming into a cave from bright day. There was light of a sort for a considerable distance; then it began to fade sharply. It became a dim twilight. Gosseyn looked up but there was no sky visible. To the left and to the right and ahead, the twilight world pressed in upon him.

He walked on, strongly, but unalarmed. Twilight had no terrors for his null-A mind. He visualized himself threading this Venusian jungle, under a mighty canopy of foliage. And, so long as he kept his thoughts away from his personal background, the feeling was good. He had a superb sense of security, of being orientated to his physical universe.

It was, he thought some time later, as if he was on the lower floor of an enormous building, following a corridor that kept twisting, changing, curving, now opening up into great antechambers, now narrowing down to a pathless tangle of tall, spreading shrubbery, the equivalent of a doorway, but always with a roof overhead, holding off the sky.

He had a grim conviction that it would be harder to sustain his sense of direction among the trees than in any conceivable building. But he had a compass. Which should keep him on his general course; and he could hope for no more than that.

A curious heavy sound impinged suddenly upon Gosseyn's attention. It came from above, far above. It grew louder rapidly, became a continuous sound, like the roar of many smoothly operating machines.

Gosseyn stopped, and stared blankly upwards into the shadows. He walked on finally still puzzled. An hour later, the sound began to fade. It ended; and the hush of the great woods pressed instantly back into place around him.

It was half an hour after that that there was a *whoosh!* above Gosseyn. He looked up instinctively, and was struck in the face by a gush of water. The water poured down his back and front. It drenched him with its cool freshness. After it had stopped, Gosseyn estimated that about a barrel of it had debouched down upon him.

That first gush was like a signal. All around him, as he walked, water began to come down. He could hear the splashing in the shadows on every side; and twice more he was partially caught in the engulfing

wet folds. Like a gigantic sprinkling system, the branches above were sending down torrents of water; and there was no longer any doubt what had happened.

It had rained. Gigantic leaves had taken the entire load of rain in their ample, up-curved green bosoms. But now here, now there, the water was overweighing leaf after leaf, and tumbling down into the depths, frequently into other leaves; but always the process must have continued until some small portion of the greater bulk of water actually reached the ground.

The rain must have been on a colossal scale. Just as well to be in a forest whose leaves could almost support a river.

Gosseyn pictured that, mentally enlivened by the vision. A man who had already been killed once, who had no memory, no identity—walking to escape death in a forest of trees three thousand feet high.

He was still walking along in the apparently interminable forest when he noticed that the shadows around him were darkening.

In ten minutes there was no question but that night was falling.

Peaceful was that night, but dark. Gosseyn had had an indeterminate plan to climb a tree, with the purpose of avoiding any Venusian animals that might be about. Incredibly, he had forgotten to ask about animals; and though he had seen none that was no proof that there weren't any.

Swiftly, it was too dark to climb a tree. It was too dark to see the lower branches, too dark even to see the nature of the cool earth on which he cautiously settled himself.

There was no grass within reach of his fumbling fingers, but there seemed to be *something*—moss, he decided, frowning. But he couldn't be sure.

The problem of sleeping, he pondered for a long time, ruefully. He had taken a compass from the hospital, but without examining it beyond verifying by means of the lie detector that it was a compass.

It was important that he make a wide circling move, always under cover, and eventually head "east."

In the darkness, he fumbled around for a stick, a branch. Finding it, he drew several lines in the ground, lines running roughly east and west. He laid the stick in one of the little ruts, for good measure; and finally, as an additional precaution, stretched himself parallel to the stick, his head pointing west.

In that position, still worried about the animals, he fell asleep.

He wakened with a start to realize that it must be day. The darkness was again of a twilight variety; and there was a special brightness to the northwest that made him hurry in that direction.

It grew lighter and lighter. After about twenty minutes, the trees began to thin, to straggle; and then he came to a treeless meadow.

A brook raced noisily over stones and pebbles, and swished more softly but with a sinister sound around the sharp curves. Its banks were lined with huge shrubs, and he could follow the wavy bed of it in the

general direction of the dark river he had seen earlier, but which was not now in sight.

The water was surprisingly cool considering the unchanging mildness of the climate. Gosseyn drank, ate sparingly out of his pack, sampled some of the sweet purple berries the doctor had described. And then began to follow the general course of the creek.

He came to the river in about two hours. Ugly, dark, dangerous river, wider than he had thought; not two hundred but three hundred yards. At least.

It was disturbing, not because he intended even an attempt at fording, but because the plan he did have in mind might not be possible if the width was too great.

He followed the river "west." He came to where two trees, one on either side of the surging water, joined branches a thousand feet above the ground. He began to climb.

The actual process of climbing was not hard. The gigantic trunk was massively rough, providing a thousand hand and footholds. And there were plenty of monster branches upon which to rest.

But after an hour he still had distance to go; and there was unpleasant depth below him. Besides, the very continuity of the process of climbing, easy though each separate movement was, grew onerous, and seemed endless.

There was a little jump, too, that he had to take, to make his connection with the other tree. It was only five feet, and there was plenty of bole at either end to insure safety. But his muscles wouldn't relax until he was over the gap, and down on the ground again.

Another hour later, that was.

He struck out strongly toward the northeast.

There were other meadows during the days that followed, other glimpses of a sky, the clouds in which were too high to be visible through the haze of height. At the end of a week, the reluctant thought came to Gosseyn that even a null-A brain might be strained by prolonged journeyings in a dim, spectral world of gigantic forest.

Or perhaps—the possibility interested and sustained him during the second week—the very enormousness of everything, the almost continuous twilight, the hushed and magnificent peacefulness might conceivably make for a mental orientation to a grander environment; and so strengthen every brain affected.

During the second week, he let himself swing gradually south, following a valley that curved gently downward in that direction. On the eleventh day, he crossed a ridge and began his down-the-mountain trek with determination. On the sixteenth day, he emerged from a belt of trees just as dusk was falling.

He found a grassy nook, and he was settling himself for the night when the plane winged silently over the edge of a nearby hill, and settled down fifty feet away from him.

It rolled to a stop; and a light flashed on in its nose. It swung around with an easy assurance, and

caught Gosseyn in a blaze of sun-like brilliance. Automatic light that would never let him out of focus.

Out of that dazzling brightness, a great voice came:

"GOSSEYN, GILBERT GOSSEYN, GET INTO THIS PLANE. A DOZEN GUNS ARE POINTING AT YOU, AND THERE IS NO ESCAPE."

Gosseyn saw the guns, snouted barrel ends that poked out of the fuselage—and followed his movements.

The sight slowed him, shocked him. With all the swift cunning of a natural fighter, he had walked straight towards his enemy, acutely conscious of the disadvantages that distance placed him under, anxious for the close contact that made resistance possible.

Now, near or far made no difference. So long as he was outside that plane, it had him at its mercy. Useless to argue with an inanimate object, acting under orders.

There remained the vital question: Could it control him inside?

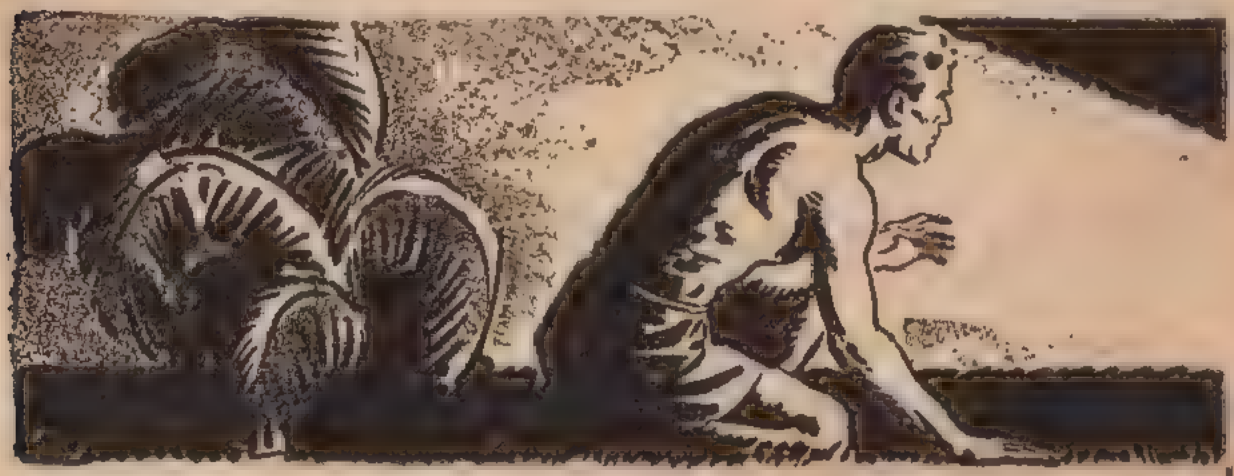
Without a word Gosseyn went around to the side of the plane, pulled open the door, and climbed in. There were two rows of plush seats, glowingly green in color. He had barely time to slip into the nearest. The plane raced irresistibly forward, and became air-borne.

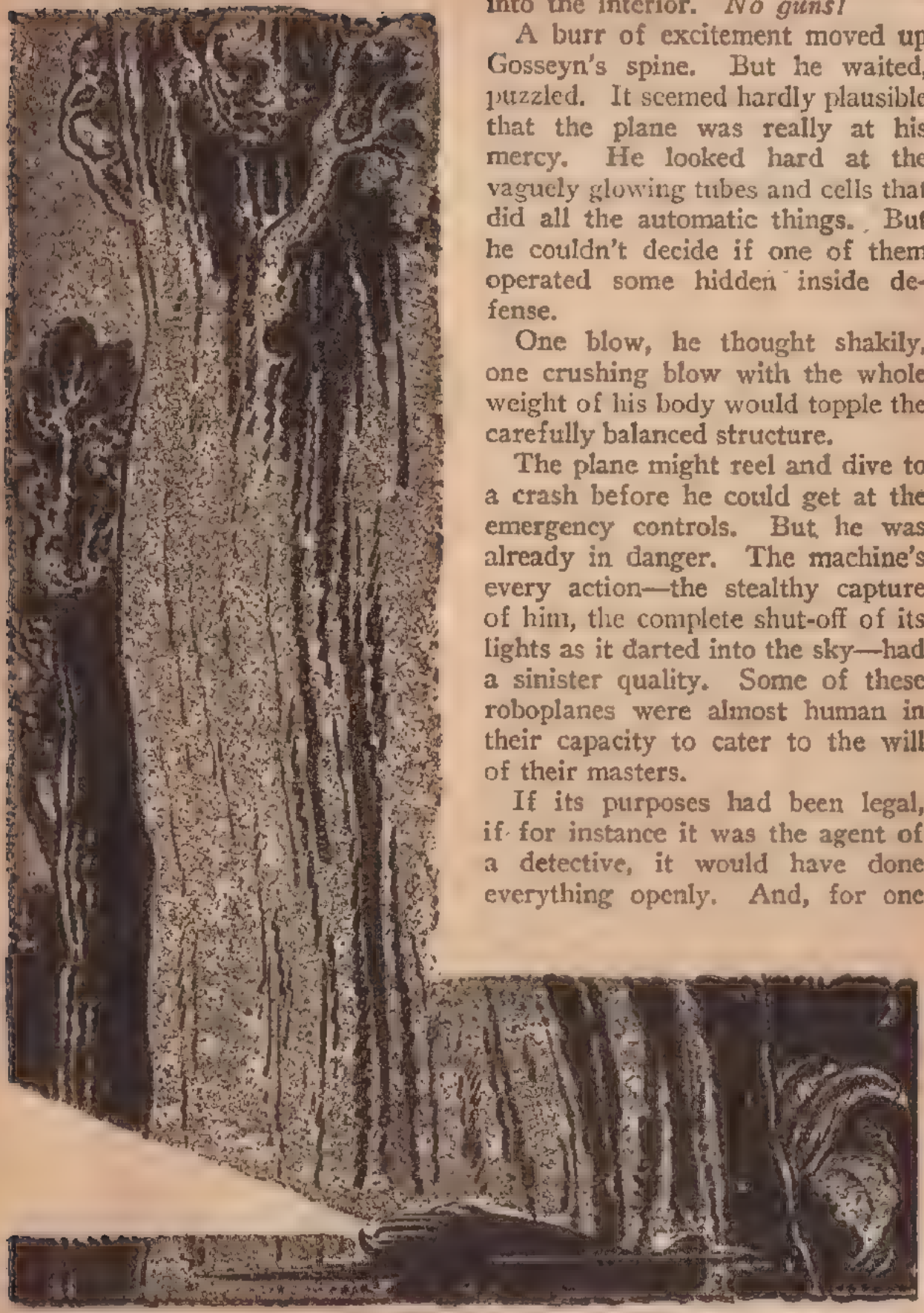
All the lights blinked out. Steeply, the machine climbed into the night sky.

He watched the dark ground become formless. In a minute, the world of giant trees and the land were at one with the night. A uniform black enveloped the hurtling plane.

Anywhere from three to five minutes ticked by; and then slowly the machine began to level off. At first it was merely a lessening of vertical pressure, then the angle of ascent shifted, and kept on shifting until the roboplane was speeding along, still at enormous velocity, horizontally to the planetary surface.

The lights flashed on, as they finally came level. Instantly, Gosseyn's gaze flashed to the control board. The controls were in a box mounted on the usual balancers, and there was nothing else in the nose





of the plane. No guns pointing into the interior. *No guns!*

A burr of excitement moved up Gosseyn's spine. But he waited, puzzled. It seemed hardly plausible that the plane was really at his mercy. He looked hard at the vaguely glowing tubes and cells that did all the automatic things. But he couldn't decide if one of them operated some hidden inside defense.

One blow, he thought shakily, one crushing blow with the whole weight of his body would topple the carefully balanced structure.

The plane might reel and dive to a crash before he could get at the emergency controls. But he was already in danger. The machine's every action—the stealthy capture of him, the complete shut-off of its lights as it darted into the sky—had a sinister quality. Some of these roboplanes were almost human in their capacity to cater to the will of their masters.

If its purposes had been legal, if for instance it was the agent of a detective, it would have done everything openly. And, for one

thing, it would have spoken before this.

Gosseyn hesitated, then said in a steady tone:

"I suppose you know that roboplanes caught exceeding their authority are subjected to heavy penalties."

A chuckle answered him. It came from a series of circular perforations in the ceiling, a loud speaker.

"I'm sure," said a mild baritone voice, "that catching a wanted man will never be held against me."

So it had an alibi. Gosseyn had little doubt now. Somebody—he could only think of "X" and the great Hardie gang—had beaten out the Venusian detectives.

He felt his first terrible chill.

"I won't explain," the voice was saying, "how I used the science of unstraight lines to locate you. The details are too involved, and besides we are working under a time limitation."

It didn't explain the limitation. But it wasn't that that momentarily stopped Gosseyn's gathering tenseness, slowed the contraction of his muscles, readying for assault.

It was the reference to how he had been located. He began to see the picture. A straight line in the extensional world was a series of curves, whose radii were so remote that the human mind could not distinguish the curve. None of these curves was exactly the same as any of the others, though structurally they were all similar. The mathematics involved was that heady concoction known as the differential calculus, and up to a point the rate of change of the curves could be accurately predicted.

Like all mortals, he had followed the easiest course of the routes he had chosen. He had climbed hills instead of mountains, ridges instead of hills. He had followed valleys and defiles, and finally he had gone down the mountain. The differential calculus had simply—they must have taken radar maps of the terrain—predicted several score points where he would be each day. And the roboplane had finally found him at one of those points.

He grew aware that the roboplane was speaking again:

"There has been for some minutes," it said, "a threat of imminent violence in your attitude. I must warn you that the entire forward part of the floor is electrified beyond human endurance."

"Oh!" said Gosseyn, sagging a little in his seat.

He was really caught then, outside *and* in.

"And now," said the plane, "I have given you all the time you need to adjust. If you will listen without interruption, we can get down to business."

As much as any human being with an ever-interpreting brain can listen, Gosseyn listened.

There was nothing else to do.

The voice began:

"To understand the political situation here, you must reach out with your mind to the furthest limits of your ideas of ultimate democracy, and then somehow go

beyond. There is no president of Venus, no council, no ruling group at all. Everything is voluntary; every man lives to himself alone, and yet conjoins with others to see that the necessary work is done.

"But people can choose their own work. You might say, suppose everybody decides to enter the same profession. That doesn't happen. The population is composed of responsible citizens who make a careful study of the entire work-to-be-done situation before they choose their jobs.

"For instance, when a detective dies, or retires, or changes his occupation, he advertises his intention, or, in the case of death, his position is advertised. If he is still alive, people who would like to become detectives come to discuss their qualifications with him and with each other. Whether he is alive or dead, his successor is finally decided upon as a result of a vote among the applicants."

In spite of himself, Gosseyn had a private thought at that point. It had nothing to do with the picture he was being given of life on Venus, the hopeful, fascinating picture of a super-civilization. It was personal to the roboplane, a concrete awareness that the machine was giving him as objective an account as he had ever heard.

The intensity of honesty brought to the fore a now comparatively old question: *Who* had instructed this robotic instrument to talk to him on such a level of appraisal?

He grew aware again of the machine's voice:

"You must now visualize a situation where more than half the applications for all detective and judicial positions are agents of "X." By a careful system of murders, they have managed to eliminate the more dangerous of the normal membership, and at present have virtual control of all key detective and judicial positions, as well as quantity control of both organizations and—"

That was where Gosseyn interrupted: "Just a minute," he said dazedly. "One minute, please."

He stood up, only vaguely aware that he did so. "Are you trying to tell me—" he began.

"I'm telling you," said the machine grimly, "that you cannot escape capture. And I must warn you. You seem to have no conception of the enormous efforts being made to find you. Your existence and the mystery of your mind potential has caused a great war machine to mark time, while its leaders frantically try to run you down and discover the nature of the threat to them that you represent. In all earnestness, therefore, I say: Do not think you are being lightly asked to do what I now propose as your only logical action:

"You must let yourself fall into their hands. You must do this in the hope that they are so vitally interested in your special mental and physical make-up that they will allow you to live for several days at least, while they investigate your nervous system in detail, and with more care than last time. The last time"—there was a mechanical chuckle—"they acted too hastily and

released forces beyond their control.

"But now, before I give you your final instructions, any questions?"

There was a prolonged pause.

"Questions?" said Gosseyn finally.

His mind made a leap, then recoiled before the extent of his danger. He had underestimated his enemy. Memory came of the strong, clear-out, executive character of President Hardie—and he knew that he had no business underestimating men who had gone as far as had the members of this tremendous, solar-system-embracing gang.

The fleeting thought came that all this was a trick of "X", to make Gilbert Gosseyn give himself up without a struggle. The possibility slowed his intense excitement. Sardonicism came, the realization that there was no way he could judge what was really going on. He must adopt a casual, meet-situations-as-they-happened attitude, and commit himself to nothing.

He forced himself to sit down. And grew aware that it was raining.

That startled, distracted him. The rain lashed and beat against the porthole beside which Gosseyn sat. He realized that the machine had been shuddering for minutes under the weighty impact of the collapsing sky. With an effort, he drew his thought away from the hiss and roar of the water. There was another angle in all this:

Whoever had given the original instructions to the plane had disapproved of the "X"-Hardie gang. There was someone here who was on his side. Who?

The plane began to tilt downward.

"Better hurry," it said, "and formulate your questions."

They were going to land.

In a few minutes, grimly amused men like Thorson—perhaps Thorson himself—would be putting handcuffs on him, and leading him to secret hideouts of the gang. Leading him to his death as if it was already an accomplished fact.

Stiffly, Gosseyn leaned back in his seat. There were basic questions that he would like to have answered, but just where he should begin was a question in itself. He found himself thinking darkly that the time he had spent persuading the Prescotts had been wasted. Because they had merely intended to inform Detective Registry of his story. And right now, Detective Registry was "X".

He was back where he had started. No one knew but he and the Games' Machine and this roboplane.

Gosseyn's mind poised like a startled bird in flight. Where had the roboplane gotten its information?

He looked up. He parted his lips. But it was the machine that spoke first:

"I'm sorry," said the voice. "There is no more time for questions. Here, then, are your final instructions:

"In a few moments, you will be landed beside the forest home of an 'X' detective. Go to him, and tell

your story of the threat to A, as if you do not know that he is an agent of the gang. Carry the pretense through to the last possible moment, but you must be the judge of your danger at any given time. And now, the Games' Machine, whose agent I am gives you one last warning—"

"Just a minute!" said Gosseyn. "Did you say *the Machine?*"

Light was coming at last into his mind.

"One last warning," the voice repeated relentlessly. "There is a factor involved in this affair, of which the Machine knows almost literally nothing. There is an alien life factor behind 'X', of the existence of which scarcely any evidence is available. But whatever evidence there is, you will find it here.

"And now we land."

There was a bump, then a jerky glide, that ended.

"Out," said the voice. "Get out! I cannot remain here even a minute. Get out. *Quick!*"

Its tone impelled Gosseyn. He was at the door before he stopped, and half turned. The questions were crowding his brain now.

"But!" he began. And was cut off.

"Hurry, hurry!" said the roboplane. "We can't take a single chance with this unhuman intelligence. It is vital that no one suspect how you were brought here. Out with you into the night. Every second counts."

Reluctant but obedient, Gosseyn stepped out into the pouring rain. A moment later he was alone in the immense, damp darkness of an alien planet.

## VIII.

"The characters which science discerns in nature are subtle characters. They are relations of relations and characters of characters."

A. N. W.

He had to get out of the rain. Like a man pushing through a raging stream, Gosseyn bent into the downpour, and trudged grimly ahead.

In a way the rain relieved him. He had had a curious uneasy fear that strange creatures might be watching for him. That fear was gone.

Not in this rain would anything be lying in wait for him. At least, not until he got in among the sheltering trees.

There must be trees. If, as the roboplane had said, he was near the *forest* home of an "X" agent, then there would be a forest. He could, of course, be going in the wrong direction.

Gosseyn thought not. The roboplane had let him off on this side.

The rain pelted his face and legs and arms. After he had floundered forward about eight minutes, Gosseyn had the feeling that it was letting up a little.

He paused, and looked up. But there was nothing to see. The rain brought the sky right down to the ground; and the sky pressed with a thousand needles of water upon his unprotected, u p t u r n e d face. Streams of it poured into his nos-

trils, and sought access to his mouth. He stopped breathing.

Standing there, Gosseyn had the impression that he was prisoned at the bottom of a sea in a world of endless water. Dark was that sea; and, like all the darkness that ever was, full of mystery and menace.

He lowered his head again, and plunged on. And realized after less than a minute more that he had been right. The rain was slowing.

It ended while he was still out in the open. Mild and fresh, the darkness flowed around him. No longer was it alien, but peaceful like the nights of the past two weeks.

He knew when he struck dry ground that he had reached the forest. Gosseyn paused, and studied the darkness. Now that the rain had ended, there was physical peace all right. But now, also, what the roboplane had said about the aliens, took on new potentialities:

*"Whatever evidence there is, you will find it here."*

Gosseyn stared and stared. But the blackness remained uniform in every direction, untouched even by a suggestion of light.

He began to feel obstinate. He couldn't have been misled. He strode forward a hundred yards, and he was not surprised when he saw a glimmer to his left. It was a vague reflection that grew brighter as he walked. It became a glow that splashed the ground, and lightened up neighboring trees.

After about ten minutes altogether, Gosseyn saw its source: Massive windows *in* a tree.

They poured forth a cheerful brightness, promising comfort, and relief from the soaked clothing that clung damply to his body. He decided not to worry too much about physical ease.

Out there in the rain, he had made up his mind that he had no alternative but to follow the advice of the Machine. Pondering that purpose, Gosseyn paused in the shadows of a patch of underbrush, and studied the house in the tree.

He waited, watching for figures to silhouette against the great windows. But the light continued unchanging. There was not even a reflected movement from inside.

Satisfied, Gosseyn stepped into the light. He had already noticed a great stairway to his right, cut out of the solid trunk. He walked up the steps to a terrace that led to a closed, ornate door.

He knocked, strongly.

A minute dragged by. At the end of it, the thought had already come to Gosseyn that there might be no one at home, despite the blazing lights. His leveling off on a basis of unqualified boldness permitted no prolonged time gap. Once more he knocked, and then he tried the knob.

The door opened noiselessly, revealing a dimly lighted corridor. A corridor that had been cut out of the solid wood, highly polished, and then left in its natural state.

It shone with a dull luster. It had an intricate design, resembling mahogany centerwood, but its coloring was like dark walnut veneer.

One flashing glance Gosseyn

took; and had the picture of it. He stood briefly hesitant. It would be silly if a man who intended to surrender was shot as a lawless intruder.

He knocked once more, on the inner side of the door this time. No answer. That settled it. He must, according to the laws governing null-A decisions, assume he had the house to himself, and act accordingly.

The decision made, he walked forward towards where a light came dazzling through an open door. He paused in the doorway for a moment, then went into a large, cozy living room which, like the corridor, had been carved out of the solid wood of the great tree.

It, too, was highly polished, but apparently a different finishing process had been used, for the wood was lighter. The effect was of richness, a magnificence accentuated by the furniture and by a rug that was at least ninety feet long by sixty wide. It was from here, obviously, that the light had come that he had seen outside. Massive, gleaming windows curved spaciously along one entire wall the full length of the room.

The room was empty of human beings.

It had five doors leading from it; and Gosseyn followed each one in turn. To a kitchen with pantries and cold rooms and breakfast nook leading off of it. To five bedrooms, each with private bath, and with a doorway leading into a dark room that seemed to be an immense garden *inside* the tree. And to a library which, except for its size, seemed to be quite ordinary: Books, electronic records, and pamphlets made up its contents.

As he passed through the library, Gosseyn glanced at a book lying on a table beside a chair. The title was: "Detective In A World Without Criminals."

He picked it up with trembling fingers. A Venusian book. A genuine, Venusian, null-A book! With a wild surmise, he flung his gaze along the lines of shelves. In that swift examination, the library lost its ordinariness, and came alive. With a great effort, he forced himself out of that room.

Later, he decided shakily, he would read his way through it.

It struck him sharply that he had no doubt there would be a later for him. The realization brought a new, intimate awareness of something that had been at the back of his mind for some minutes:

Suppose, as now seemed apparent, the owner of this magnificent apartment was out. *Out hunting for him!* No doubt the man would return in due course, but his absence now posed a psychological problem.

Gilbert Gosseyn's decision was postponed. He remained uncommitted. Until the last minute before "X" 's agent came back, a change of mind was possible.

It left things unsettled. It would make for nerve wear, for unease, and for recurring doubts as to the advisability of staying here to be captured by an enemy, when a whole planet-ful of people had yet to be warned of danger.

In leaving the library, Gosseyn had emerged into a corridor that had two other doors leading from it. He ended his thought, and tried them in turn. As with all the doors in the place, they were unlocked. One opened into the kitchen; the other into darkness.

The light from the hallway he was in poured over his shoulder; and, after his eyes grew accustomed to the dimness, he saw that he was looking into a long corridor. After a hundred and fifty feet, the light melted into shadow, but Gosseyn had the impression that the hallway continued on into the depths of the tree bole.

He closed the door, and went slowly to one of the bedrooms. He removed his scanty clothing, washed each piece in turn, and then took a bath himself. Finally, refreshed and drowsy, he crawled under the thin sheets.

The silence around him was as complete as anything he had experienced during his sixteen days on Venus. His thoughts turned inward to the mystery of Gilbert Gosseyn, who had once been killed, and now lived again. Even the gods of old hadn't done any better than that.

Who was he? *Who?* WHO? The devastating thing was that he had actually been told, and had forgotten. The reality of that forgetfulness wrenched his mind for the hundredth time. Because his lack of memory about that made everything shaky, in spite of what the roboplane had told him. It was too like a dream. In dreams you forgot what people told you, and you strained and strained to remember.

And also you did things like escaping from chains and captors, without any idea of how you had gotten away. Funny, he couldn't remember *anything* about his identity, except that it was important.

What could it be?

There simply weren't any special people in the null-A universe. In the old, romantic days, he could have turned out to be a prince of some great Imperium, or a special government agent, or the son of some super-rich glamor merchant.

But there was nothing like that possible now. True, there were rich men in great numbers, and presumably President Hardie's agents could be called government agents of a sort. But values had changed. People were people, normally born equal, requiring the simple, straightforward, null-A training to integrate their intelligence.

There were no kings, no archdukes, no supermen, traveling incognito.

*Who was he that he was so important?*

He must have slept with that thought hard in his mind.

Somewhere in the dark of the room—a rustling sound. Gosseyn half wakened, then turned over as the sound resolved itself into whispers. Meaningless whispers, that grew loud, then faded. Something feathery whisked over his cheek. He brushed at the thing with one hand. And stirred, the clouds of sleep lifting. An insect! he thought.

He was starting to sink again into unconsciousness, when the wrongness of his epithet penetrated. Insects! He had seen no insects on Venus, no animal life of any kind.

The whisperings were loud once more. The detective must have come home, Gosseyn analyzed wearily. His brain seemed satisfied with that explanation in some curious, unanxious fashion. Because he relaxed then, and slept.

Gosseyn wakened with a start. The light of day shone through the open bedroom door from the corridor that led to the living room. He scarcely noticed. Books! he was thinking, excitedly. A Venusian library. In minutes he would be at it.

He sat up. And remembered the sounds of the night. Slowly, he settled back. He'd better forget the books. He lay, eyes wide, thinking with gathering shock of the easy way his mind had, during the night, accepted the return of the detective.

"Don't shoot me," he muttered sardonically, "until I've had a good night's rest."

That was the way he had reacted. And now, his problem was to bring his presence to the attention of an "X" agent. He climbed out of bed, determined on an intermediate tactic.

He washed noisily, whistling loudly and tunelessly the while. It was all just a little foolish. But not too much so. Theoretically, if the other man heard sounds, he would not fire on sight.

That was important.

Gosseyn whistled furiously as he strode into the kitchen. Nor was there anything quiet about the way he peered into drawers and cupboards. He rattled pans and pots. He brought a cup and saucer down from a shelf with a crash. He fried his bacon with a crackle and splash of fat. And he ate noisily: bacon, toast, tea and fresh Venusian fruit. The fruit went very nicely with cream and sugar.

He was eating the fruit, still with a tensed expectancy that he would be interrupted any second, when the first doubt penetrated.

"What on earth," he wondered aloud, "gave me the idea someone came in last night."

He sat remembering the whisperings. A chill crept over him. He finished the fruit, and swiftly explored the apartment. The living room was bright with the daylight that blazed in through the great windows. None of the bedrooms, except his own, had been slept in. But the door that led into the interior of the tree was wide open.

Gosseyn stared at it, then peered along the corridor. It was as dark as it had been the night before. Had he shut the door? Or hadn't he?

He couldn't remember for sure, but it seemed to him that he had. "I wouldn't," he decided, "have left it open except by purest accident."

He returned to the living room, his mind probing the possibilities. Since he had no real evidence, he slowly forced the unpleasantness out of his system. The windows drew his physical attention as well as his mental. And now he saw what he

hadn't noticed the night before:

The house in the tree looked out on a green, gorgeous meadow. Part of that meadow, as well as the shrubs in which he had briefly concealed himself during the night, formed a portion of a neatly arranged garden. The garden covered several acres, and was terraced up towards the tree to some connection with the tree that Gosseyn couldn't see from the living room windows.

A flashing memory came to Gosseyn of the dark gardenlike space onto which doors from each of the bedrooms had led.

That was in the general direction of the outside terrace.

It required only a few seconds to get there. And it was exactly as he had so suddenly analyzed. The garden began inside the tree, about seventy feet inside. A mere chip that seventy feet was, out of such a mass of growing wood. But it made possible a dream of a garden for a human being:

Shrubs he hadn't seen wild, aglow with flowers. *Flowers as big as Earth trees,* so blazing with color that they seemed to be giving off a light of their own. What an experimental paradise Venusian flora must have been, must be, for botanists.

He had seen a tiny portion of those results at the hospital in the mountains. But there was a greater naturalness about this home in a tree, with a garden that exhaled its perfume like an invisible spray, so thick was the scent.

Gosseyn turned away from the garden because—books. A minute later he was in the library.

As a starter, he took down four volumes: "The Aristotelian And Non-Aristotelian History of Venus," "The Machine And Its Builders," "The Solipsist On Non-Aristotelian Venus" and the volume he had noticed the evening before, titled: "Detectives In A World Without Criminals."

Each volume had in its frontispiece the name "Eldred Crang". Gosseyn deduced without feeling too brilliant that that was his host's name.

So this was the home of the man whom "X" had claimed had helped him to corrupt the Games Machine.

Gosseyn read snatches. He read, dogged by the continual worry that he would be interrupted. He started with the history. It told the story, long-suppressed on Earth, of the first men to land on Venus. It told of the realization by the Institute of General Semantics just then, in 2018 A.D., entering its governmental phase, of the null-A potentialities of the bountiful planet. The Machine method of selecting colonists came a hundred years later; and the greatest selective emigration plan in the history of man began to gather momentum.

. . . Population of Venus as of 2560 A.D. . . . 119,000,038 males, 120,743,280 females.

Feverishly, Gosseyn turned to a chapter titled: "The Native Life of Venus." It began:

Daniel Miller, the first man to step from the first spaceship to land on Venus,

returned from a brief exploratory trip into the nearest forest of primeval Venus, and said to his men:

"We'll have to be very careful. Every minute I was out I had the impression I was being followed, and watched by curious eyes. What worries me is, I saw nothing, not a movement nor a footprint. Whoever trailed me excels at camouflage; perhaps intelligent Venusians are naturally colored some variation of dark and light shade. In any event, if the inhabitants are so deliberately evasive, we'd better be on the alert day and night."

The "inhabitants" of Venus have been equally evasive during the past four hundred years. They are neither dark in color nor light. Their methods of camouflage are so superlative that they have succeeded in convincing two hundred million human beings that animal life does not, in fact, exist on Venus.

The author went on to report and discuss various ethnological and anthropological finds, the discovery of which, from time to time, seemed to indicate that primitive beings had once lived on the second planet.

One by one he disposed of the "finds". The most difficult to explain, certain hollowed trees, he attributed after a masterly analysis of the diseases of Venusian flora, to a species of dry rot. This rot, affecting trees at various stages, made for cavernous interiors as the tree grew larger. Interiors complete with chambers and antechambers.

The great basic behind his explanations, the reality which in a ponderous fashion made all his plausibilities respectable was the undoubted fact that, in four centuries, no human beings had ever reported having seen a Venusian insect, bird, reptile or animal.

The argument was not altogether convincing to a man who was actually sitting in such a hollowed-out tree. Gosseyn glanced grimly around the library with its polished walls, the completeness of the room as a room. *This* a product of dry rot? Never!

Of course, it must have been fixed up. Doors must have been added, the walls smoothed off and sanded but—

Gosseyn put aside the book, and sat thoughtful and self-critical. Had he heard something the night before? He had a pretty solid conviction that he had. But what? Whisperings?

His speculations exhausted themselves for want of additional evidence, and because there was no time. With a nervous speed, he put aside the history, passed over "The Machine And Its Builders"—after all, he knew something of the Machine—and snatched up "The Solipsist On Non-Aristotelian Venus," by Lauren Kair, Ps.D.

There was a little note in the frontispiece to the effect that Dr. Kair was now practicing on Earth. It was on page 110 that he ran across something he had been wondering about for days, a paragraph that read:

The most difficult to isolate of all egotists is the man or woman who has been in an accident that has resulted in injuries which do not immediately cause after effects.

Gosseyn stopped there, tingling. There might be unhuman beings in all this. But here at least was a

concrete logicality so far as "X" was concerned.

"X", the frightfully injured. Why not, then, "X", Venusian solipsist?

It seemed convincing.

The whisperings came out of the darkness of his bedroom. They were angrier than the night before, argumentative, dissatisfied. Gosseyn, half-asleep, gradually grew tense with the vague feeling that some of the whisperers were urging drastic action; others counseled delay, caution.

As the half dream, half conscious awareness dragged on and on, the angry whispers slowly transformed into grudging agreements. Silence settled upon the bedroom, an uneasy silence that merged gradually into a dream.

It was a story dream, strangely coherent, acted out against a background of space immensities. Great, blazing stars swam into his ken, and hurtled off into distance behind the shapes with which he was traveling. There was something wrong with the stars, something that was a product not of the sun itself, but of the eye that was seeing it.

It took a long time for Gosseyn to grasp even an inkling of what was wrong; to realize that the eye through which he was peering, was part of a nervous system that was not human; not of Earth, nor of Earth's spawn. It was a nervous system that made radically different abstractions from the real world. It saw a plenum that was cruel and deadly, and the nerve system as a whole was so antihuman that Gosseyn felt a chill, and he woke up shivering as if cold hands had reached through his flesh and bones, and clutched at his heart.

Gosseyn sat up jerkily in the bed.

Silence flowed around him like a waveless sea. It was so quiet that his faint breathing was loud; and he could hear the uneven beating of his heart. He had turned out the living-room lights; and the darkness was like pitch.

He sat there, thinking about his dream, dismissed it finally as a vaporing out of his own subconscious, product of fear and secret imaginings. Not so easily dismissible were the things he had been told, and his own conviction that it was time he did something about it.

The Machine had said that here if anywhere the evidence of alien intelligence would be available. Where? *Here*, a few feet away.

Slowly, Gosseyn climbed out of bed, dressed. And walked the few feet. He stood, then, peering up the dim corridor that led into the depths of a tree that was an eighth of a mile thick and half a mile tall.

The fact that it was night didn't matter. It was always night inside a tunnel. And besides he had noticed an atomic flashlight in the kitchen.

Gosseyn twisted on his heels, and got the flashlight. He left the tunnel door open behind him. He began to walk along the low-roofed corridor into the interior of the tree.

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